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# Habitats Regulations Assessment for the Gosport Borough Local Plan

January 2014



# Habitats Regulations Assessment for the Gosport Borough Local Plan

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# Contents

<b>Executive Summary</b>	<b>i</b>
E1 Introduction	i
E2 Scope of the Assessment	i
E3 Summary of Findings	ii
<b>1 Introduction</b>	<b>1</b>
1.1 Background	1
1.2 Requirement for Habitats Regulations Assessment	1
1.3 The Gosport Borough Local Plan	2
1.4 Purpose and Structure of this Document	2
<b>2 Methodology</b>	<b>5</b>
2.1 Guidance and Best Practice	5
2.2 Methodology	6
2.3 Screening	6
2.4 The Appropriate Assessment Stage	8
<b>3 European Sites</b>	<b>9</b>
3.1 Scope of the Assessment	9
3.2 Site Accounts	9
3.3 Qualifying Features	9
3.4 SAC and SPA Conservation Objectives	14
3.5 Conservation Objectives for Ramsar Sites	15
3.6 Key Environmental Conditions Supporting Site Integrity	15
<b>4 Atmospheric Pollution</b>	<b>17</b>
4.1 Baseline Conditions	17
4.2 Impact Source	20
4.3 Impact Pathway	20
4.4 Avoidance and Mitigation Integral to Plan	22
4.5 Impact Assessment	24
4.6 Conclusions	24

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<b>5</b>	<b>Disturbance: Strategic Impacts</b>	<b>27</b>
5.1	Baseline Conditions	27
5.2	Impact Source	28
5.3	Impact Pathway	28
5.4	Avoidance and Mitigation Integral to Plan	38
5.5	Impact Assessment	41
5.6	Conclusions	41
<b>6</b>	<b>Disturbance: Site-specific Impacts</b>	<b>43</b>
6.1	Baseline	43
6.2	Impact Source	47
6.3	Impact Pathway: Site-Specific Disturbance Impacts Local to Development in Gosport	47
6.4	Avoidance and Mitigation Integral to Plan	64
6.5	Impact Assessment	69
6.6	Conclusions	69
<b>7</b>	<b>Flood Risk and Coastal Squeeze</b>	<b>71</b>
7.1	Baseline Conditions	71
7.2	Impact Source	71
7.3	Impact Pathway	72
7.4	Avoidance and Mitigation Integral to Plan	75
7.5	Impact Assessment	76
7.6	Conclusions	76
<b>8</b>	<b>Water Resources and Abstraction</b>	<b>79</b>
8.1	Baseline Conditions	79
8.2	Impact Source	79
8.3	Impact Pathway	80
8.4	Avoidance and Mitigation Integral to Plan	80
8.5	Impact Assessment	80
8.6	Conclusions	81
<b>9</b>	<b>Waste Water Pollution</b>	<b>83</b>
9.1	Baseline Conditions	83
9.2	Impact Source	84
9.3	Impact Pathway	84

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9.4	Avoidance and Mitigation Integral to Plan	86
9.5	Impact Assessment	86
9.6	Conclusions	86
<b>10</b>	<b>Summary and Conclusions</b>	<b>89</b>
10.1	Summary of Findings	89
	<b>References and Bibliography</b>	<b>91</b>
	<b>Appendix I: Revised Screening Matrix</b>	<b>A</b>
	<b>Appendix II: European Site Information</b>	<b>C</b>
	<b>Appendix III: APIS Grid Reference Data</b>	<b>E</b>
	<b>Appendix IV: Allocation Plans</b>	<b>K</b>

## List of Tables and Figures

Table 2.1: Stages in the HRA process drawing on guidance from DCLG and Natural England	7
Table 3.1: The qualifying features of European sites close to Gosport borough	11
Table 4.1: Assumptions included within SRTM for Gosport	22
Table 4.2: Increases in 2-way AADT traffic flow on roads passing within 200m of European sites close to Gosport (Source: MVA, draft 2013)	22
Table 4.3: Assessment of effects on integrity, in view of the sites' conservation objectives	25
Table 5.1: Number of observations (events within 200m of birds at each site) and the responses, by site (Source: Liley et al, 2010)	31
Table 5.2: Predicted Total Annual visits to each section from all households on foot (up to 10km), by car (up to 30km) and in total (including those using other forms of transport) (Source: Fearnley et al, 2011)	33
Table 5.3: Assessment of effects on integrity, in view of the sites' conservation objectives	42
Table 6.1: Number of Important/Uncertain sites within 500m of Waterfront	48
Table 6.2: Number of Important/Uncertain sites within 500m of Daedalus	50
Table 6.3: Number of Important/Uncertain sites within 500m of Haslar	51
Table 6.4: Impacts and mitigation: Waterfront	52
Table 6.5: Impacts and mitigation: Daedalus	53
Table 6.6: Impacts and mitigation: Haslar	54
Table 6.7: Number of Important/Uncertain sites within 500m of Rowner	56
Table 6.8: Number of Important/Uncertain sites within 500m of Alver Valley	57
Table 6.9: Impacts and mitigation: Rowner	58
Table 6.10: Impacts and mitigation: Alver Valley	59
Table 6.11: Allocations outside of Regeneration Areas	60
Table 6.12: Number of Important/Uncertain sites within 500m of other allocations	62
Table 6.13: Avoidance and mitigation integral to Regeneration Area policies	64
Table 6.14: Assessment of effects on integrity, in view of the sites' conservation objectives	69
Table 7.1: Shoreline Management Plan policies in Gosport	72
Table 7.2: Habitat losses and gains around Gosport as a result of SMP policies (Source: NFDC, 2010, Appendix J, pp.68-85)	73
Table 7.3: Summary of other effects on habitat features as a result of SMP policies (Source: NFDC, 2010, Appendix J, pp.68-85)	74

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<i>Table 7.4: Assessment of effects on integrity, in view of the sites' conservation objectives</i>	76
<i>Table 8.1: Local Plan policies on the sustainable use of resources</i>	81
<i>Table 8.2: Assessment of effects on integrity, in view of the sites' conservation objectives</i>	82
<i>Table 9.1: Local Plan policies on the sustainable use of resources</i>	86
<i>Table 9.2: Assessment of effects on integrity, in view of the sites' conservation objectives</i>	87
<i>Figure 1.1: Gosport Borough Local Plan Key Diagram</i>	3
<i>Figure 3.1: European sites map</i>	10
<i>Figure 4.1: APIS Grid Reference Locations</i>	19
<i>Figure 5.1: Estimate of 2026 population density in areas surrounding the New Forest (Source, Sharp et al, 2008)</i>	29
<i>Figure 5.2: Response to disturbance events by species. All species for which there were data from at least 50 events are included (Source: Liley et al, 2010)</i>	32
<i>Figure 5.3: Responses of birds (grouped across all sites and all species) according to activity (Source: Liley et al, 2010)</i>	33
<i>Figure 6.1: Gosport Waterfront and Town Centre Regeneration Area</i>	48
<i>Figure 6.2: Daedalus Regeneration Area</i>	49
<i>Figure 6.3: Haslar Peninsula Regeneration Area</i>	51
<i>Figure 6.4: Rowner Regeneration Area</i>	55
<i>Figure 6.5: Alver Valley Country Park</i>	56
<i>Figure 6.6: Allocations outside of Regeneration Areas</i>	61
<i>Figure 7.1: Flood zones 2 and 3 within Gosport borough</i>	71
<i>Figure 8.1: Portsmouth Waters' Baseline Water Supply-Demand Balance (Source: Portsmouth Water, 2013)</i>	81

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## Abbreviations

AA	Appropriate Assessment
AAP	Area Action Plan
AMP	Asset Management Planning
AMR	Automatic Meter Reading
APIS	Air Pollution Information System
BAT	Best Available Technique
BREEAM	Building Research Establishment Environmental Assessment Method
BRT	Bus Rapid Transit
CAMS	Catchment Abstraction Management Strategy
CSO	Core Strategy Objective
DWF	Dry Weather Flow
ha	Hectare
IWMS	Integrated Water Management Strategy
l/h/d	Litres per household per day
MI/d	Megalitres per day
MoU	Memorandum of Understanding
MRF	Minimum Residual Flow
N	Nitrogen
NH <sub>4</sub>	Ammonia
NO <sub>x</sub>	Oxides of nitrogen
O <sub>3</sub>	Ozone
PUSH	Partnership for Urban South Hampshire
RHCP	Regional Habitat Creation Programme
RoC	Review of Consents
SDA	Strategic Development Area
SDCP	Solent Dynamic Coast Project
SEA	Strategic Environmental Assessment
SMP	Shoreline Management Plan
SO <sub>2</sub>	Sulphur dioxide
SPD	Supplementary Planning Document
sqm	Square metre
SuDS	Sustainable Drainage System
WAFU	Water Available for Use
WRMP	Water Resource Management Plan
WRZ	Water Resource Zone
WWTW	Waste Water Treatment Works



# Executive Summary

## E1 Introduction

E1.1 Gosport Borough Council is preparing a Local Plan to guide strategic and site-specific development across the borough for the period 2011 – 2029. As an integral part of this process, the Council has undertaken a Habitats Regulations Assessment (HRA) for the plan.

E1.2 HRA is a requirement of the Conservation of Habitats and Species Regulations 2010 (as amended; known as 'the Habitats Regulations'). The assessment focuses on the likely significant effects of the plan on the nature conservation interests of European-protected areas in and around the borough, and seeks to establish whether or not there will be any adverse effects on the ecological integrity of these European sites as a result of proposals in the plan.

## E2 Scope of the Assessment

E2.1 European sites considered within the scope of this assessment include all those within 20km of the borough (excluding sites on the Isle of Wight which are unlikely to be affected by the plan):

- ▶ Butser Hill (SAC)
- ▶ Solent & Isle of Wight Lagoons (SAC)
- ▶ The New Forest (SAC)
- ▶ Portsmouth Harbour (SPA)
- ▶ The New Forest (SPA)
- ▶ Portsmouth Harbour (Ramsar)
- ▶ The New Forest (Ramsar)
- ▶ River Itchen (SAC)
- ▶ Solent Maritime (SAC)
- ▶ Chichester & Langstone Harbours (SPA)
- ▶ Solent and Southampton Water (SPA)
- ▶ Chichester & Langstone Harbours (Ramsar)
- ▶ Solent and Southampton Water (Ramsar)

E2.2 Based on the findings of a revised screening exercise, the assessment examines the nature of the following impacts:

- ▶ Atmospheric pollution;
- ▶ Disturbance to birds from recreation;
- ▶ A suite of site-specific factors that can lead to disturbance to birds;
- ▶ Coastal squeeze resulting from flood protection;
- ▶ Demand for water resources and water abstraction; and
- ▶ Waste water pollution.

### **E3 Summary of Findings**

E3.1 In summary, the assessment of the Proposed Submission Local Plan concludes that there will be no adverse effects on the ecological integrity of any European site, and that the plan is compliant with the Habitats Regulations.

# 1 Introduction

## 1.1 Background

- 1.1.1 Gosport Borough Council is preparing a Local Plan to guide strategic and site-specific development across the borough for the period 2011 – 2029. As an integral part of this process, the Council has undertaken a Habitats Regulations Assessment (HRA) for the plan.
- 1.1.2 HRA is a requirement of the Conservation of Habitats and Species Regulations 2010 (as amended; known as ‘the Habitats Regulations’). The assessment focuses on the likely significant effects of the plan on the nature conservation interests of European-protected areas in and around the borough, and seeks to establish whether or not there will be any adverse effects on the ecological integrity of these European sites as a result of proposals in the plan.
- 1.1.3 The Local Plan incorporates many aspects of its predecessor, the draft Core Strategy, which had also been assessed under the Habitats Regulations. This report builds upon the findings of the previous HRA, updating it where new information has become available, and re-focusing it so that it aligns with the current plan.

## 1.2 Requirement for Habitats Regulations Assessment

- 1.2.1 Habitats Regulations Assessment is a requirement of the Conservation of Habitats and Species Regulations 2010, the UK’s transposition of European Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (‘the Habitats Directive’).
- 1.2.2 Under Regulation 102, HRA must be applied to any plan or project in England and Wales with the potential to adversely affect the ecological integrity of any sites designated for their nature conservation importance as part of a system known collectively as the Natura 2000 network of European sites.
- 1.2.3 European sites provide ecological infrastructure for the protection of rare, endangered or vulnerable natural habitats and species of exceptional importance within the European Union. These sites consist of Special Areas of Conservation (SACs, designated under the Habitats Directive) and Special Protection Areas (SPAs, designated under European Council Directive 2009/147/EC on the conservation of wild birds (‘the Birds Directive’)). Meanwhile, the National Planning Policy Framework (DCLG, 2012) and Circular 06/05 (ODPM, 2005) require that Ramsar sites (UNESCO, 1971) are treated as if they are fully designated European sites for the purposes of considering development proposals that may affect them.
- 1.2.4 An HRA must determine whether or not a plan or project will adversely affect the integrity of the European site(s) concerned, in view of the site’s conservation objectives.

### 1.3 The Gosport Borough Local Plan

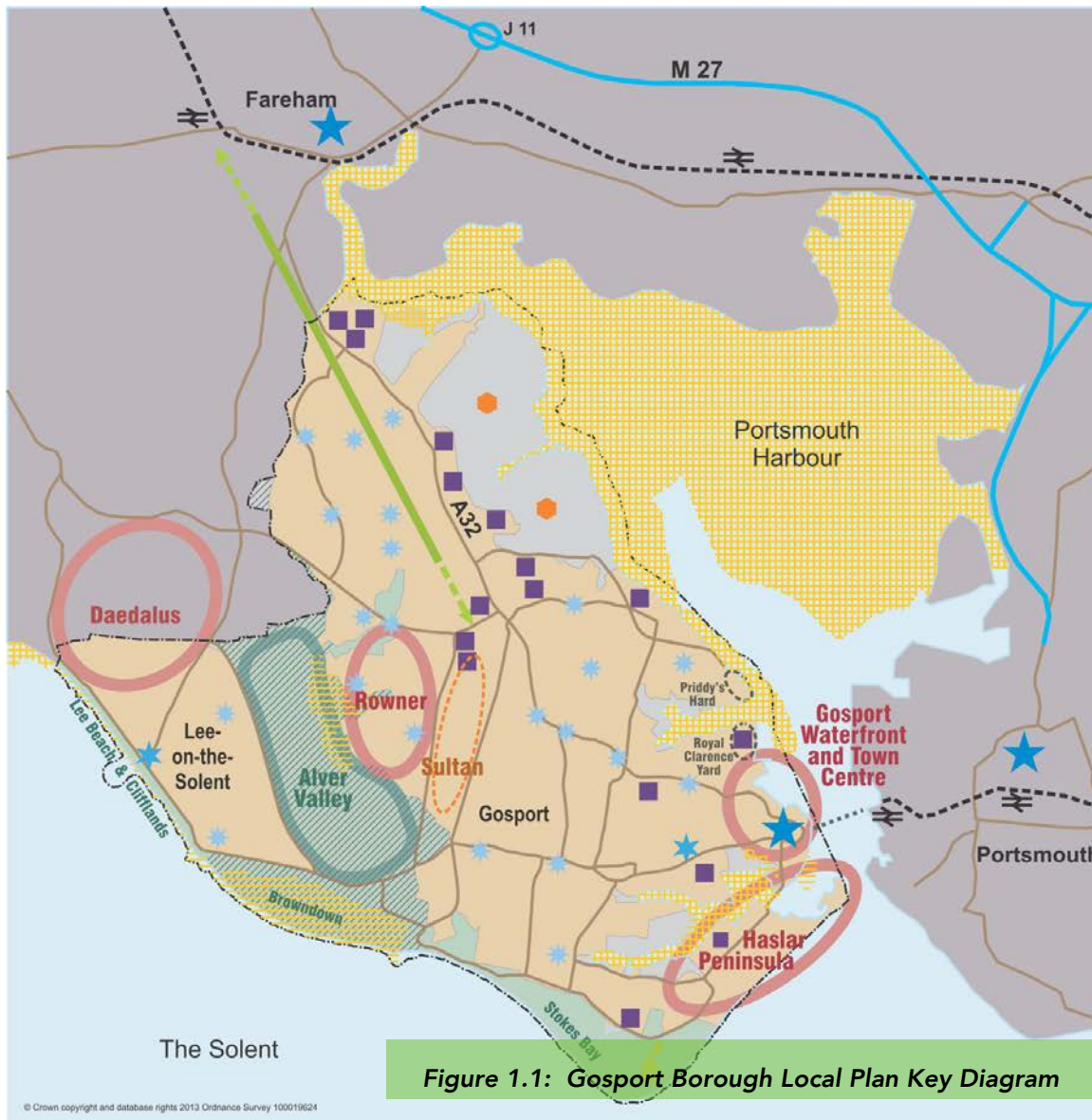
- 1.3.1 The Gosport Borough Local Plan (Pre-Submission Version) is the culmination of several years' work on the development plan. It will form the central strategic planning document for the borough and govern the way in which development is managed for the period 2011 – 2029.
- 1.3.2 The spatial strategy for the plan, as described at policy LP3 and illustrated on the Key Diagram (Figure 1.1), identifies the following development aims for the borough over the plan period and provides for:
- ▶ 84,000 square metres (sqm) of net additional employment floorspace;
  - ▶ 3,060 net additional dwellings;
  - ▶ 10,500sqm net additional retail floorspace;
  - ▶ Priority status for five Regeneration Areas – Gosport Waterfront and Town Centre, Daedalus, Haslar Peninsula, Rowner, and the Alver Valley Country Park;
  - ▶ A Employment Priority Site at HMS Sultan (if it is to be released by the MoD); and
  - ▶ Further site allocations to meet the remainder of the borough's development needs.
- 1.3.3 The Local Plan includes policies to manage the design and potential impacts of development against a range of standards and criteria.

### 1.4 Purpose and Structure of this Document

- 1.4.1 This report documents the process, findings and recommendations of the HRA for the Local Plan. It identifies and assesses potential negative impacts to European sites as a result of planned development, and makes recommendations to avoid and reduce such effects to ensure that the ecological integrity of sites is maintained.
- 1.4.2 The findings of the report include information in relation to:
- ▶ **Chapter Two:** HRA methodology;
  - ▶ **Chapter Three:** Information about the European sites;
  - ▶ **Chapter Four to Nine:** Assessment findings and recommendations; and
  - ▶ **Chapter Ten:** Summary and conclusions.

## Key Diagram : Gosport Borough

- Borough Boundary
- Motorway
- Major Roads
- Railway
- BRT Route (phase 1)
- Indicative BRT Future Phases
- Ferry
  
- Urban Area within Gosport Borough
- Major Open Spaces outside the urban area
- Other land outside the urban area
- Settlement Gap
- Principal Centre
- District Centre
- Local Centre
- Existing Key Employment Sites
- Major Operational Defence Agency Sites
- International Nature Conservation Designations
- Site of Special Scientific Interest
  
- Regeneration Areas
  - Daedalus** Employment Led
  - Rowner** Residential Led
  - Haslar Peninsula** Health / Care Led
  - Gosport Waterfront and Town Centre** Mixed Use
- Regeneration Area for Green Infrastructure
- Employment Priority Site (if released by MoD)
- Other Major Development Sites



**Figure 1.1: Gosport Borough Local Plan Key Diagram**

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## 2 Methodology

### 2.1 Guidance and Best Practice

2.1.1 Draft guidance on HRA has been defined by DCLG (2006) with more detailed draft guidance from Natural England (Tyldesley, 2009) and a range of other bodies<sup>i</sup>. The guidance recognises that there is no statutory method for undertaking Habitats Regulations Assessment and that the adopted method must be appropriate to its purpose under the Habitats Directive and Regulations. DCLG guidance identifies three main stages to the HRA process:

- ▶ **Screening:** Analysing draft options for likely significant effects on internationally designated sites;
- ▶ **Appropriate Assessment:** Ascertaining the effects on site integrity; and
- ▶ **Alternative Solutions:** Devising alternatives to the plan options, avoidance or mitigation measures.

2.1.2 An HRA must determine whether or not a plan or project will adversely affect the integrity of the European site(s) concerned, in view of the site's conservation objectives. Where adverse effects are anticipated changes must be made to the plan or project. The process is characterised by the precautionary principle. The European Commission (2000a) describes the principle as follows:

*"If a preliminary scientific evaluation shows that there are reasonable grounds for concern that a particular activity might lead to damaging effects on the environment, or on human, animal or plant health, which would be inconsistent with the protection normally afforded to these within the European Community, the Precautionary Principle is triggered.*

*"Decision-makers then have to determine what action to take. They should take account of the potential consequences of taking no action, the uncertainties inherent in the scientific evaluation, and they should consult interested parties on the possible ways of managing the risk. Measures should be proportionate to the level of risk, and to the desired level of protection. They should be provisional in nature pending the availability of more reliable scientific data.*

*"Action is then undertaken to obtain further information enabling a more objective assessment of the risk. The measures taken to manage the risk should be maintained so long as the scientific information remains inconclusive and the risk unacceptable."*

2.1.3 The hierarchy of intervention is important: where significant effects are likely or uncertain, decision-makers must firstly seek to avoid the effect through for example, a change of policy. If this is not possible, mitigation measures should be explored to remove or reduce significant

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<sup>i</sup> For example European Commission (2001) and RSPB (Dodd et al, 2007)

effects. If neither avoidance, nor subsequent mitigation is possible, alternatives to the plan or project should be considered. Such alternatives should explore ways of achieving the objectives that avoid significant effects entirely. If there are no alternatives suitable for removing an adverse effect, decision-makers must demonstrate that there are Imperative Reasons of Overriding Public Interest to continue with the proposal. This is widely perceived as an undesirable position and should be avoided if at all possible.

## 2.2 Methodology

- 2.2.1 The guidance from DCLG and Natural England was written for use in assessing strategic plans. Where individual projects come into play, as may be the case for any individual site allocation requiring Appropriate Assessment for instance, it may prove to be more suitable to use previous guidance from Natural England’s forerunner, English Nature (1997a&b, 1999 and 2001) in conjunction with guidance European Commission (2001) and Countryside Council for Wales (Tyldesley, 2011).
- 2.2.2 The overall objective of an Appropriate Assessment will be to ascertain whether any part of the plan will lead to an adverse effect on the ecological integrity of nearby European sites and, if so, make recommendations on how such effects can be avoided or mitigated. It will be carried out in accordance with the draft Natural England guidance (Tyldesley, 2009) as summarised in Table 2.1.

## 2.3 Screening

- 2.3.1 All proposed policies and site allocations were screened for likely significant effects on the European sites. Such effects can be sorted into one of 17 categories which are derived from the draft HRA guidance document produced for Natural England (Tyldesley, 2009). They help to determine which, if any, elements of the plan would be likely to have a significant effect on any interest feature of any European site, alone or in combination with other projects and plans, directly or indirectly. The 17 categories fall into four broader sections which are described as:

<b>Category A</b>	Elements of the plan / options that would have no negative effect on a European site at all
<b>Category B</b>	Elements of the plan / options that could have an effect, but the likelihood is there would be no significant negative effect on a European site either alone or in combination with other elements of the same plan, or other plans or projects
<b>Category C</b>	Elements of the plan / options that could or would be likely to have a significant effect alone and will require the plan to be subject to an appropriate assessment before it may be adopted
<b>Category D</b>	Elements of the plan / options that would be likely to have a significant effect in combination with other elements of the same plan, or other plans or projects and will require the plan to be subject to an appropriate assessment before the plan may be adopted



**Table 2.1: Stages in the HRA process drawing on guidance from DCLG and Natural England**

DCLG Stage	Natural England (Tyldesley) Steps	
<b>AA1: Likely significant effects</b>	1. Gather the evidence base about international sites.	
	2. Consult Natural England and other stakeholders on the method for HRA and sites to be included.	
	3. Screen elements of the plans for likelihood of significant effects.	
	4. Eliminate likely significant effects by amending the plan / option.	
	5. Consult Natural England and other stakeholders on the findings of the screening stage, and scope of the Appropriate Assessment if required.	
<b>AA2: Appropriate Assessment and ascertaining the effect on integrity</b>	6. Appropriate Assessment of elements of the plan likely to have significant effects on a European site.	8. Assess additions and changes to the plan and prepare draft HRA record.
<b>AA3: Mitigation measures and alternative solutions</b>	7. Amend the plan / option or take other action to avoid any adverse effect on integrity of European site(s).	9. Complete the draft Appropriate Assessment and draft HRA record.
<b>Reporting and recording</b>	10. Submit draft HRA and supporting documents to Natural England.	
	11. Consult Natural England, other stakeholders and the public (if suitable).	
	12. Publish final HRA record and submit with Natural England letter to Inspector for Examination.	
	13. Respond to any representations relating to the HRA and to Inspector's questions.	
	14. Check changes to the plan, complete HRA record and establish any monitoring required.	

**ITERATIVE**

2.3.2 Categories A, C and D are subdivided so that the specific reason why the assessor has allocated the policy or proposal to that category is more transparent, and more directly related to the ways in which the plan may affect a European site. These subdivisions are detailed in Appendix I together with the findings of a revised screening exercise. The categories, and traffic light colour-coded sub-categories, provide the means of recording the results of the assessment in such a way that important issues are identified whilst policies that have no effect are screened out.

## 2.4 The Appropriate Assessment Stage

2.4.1 The purpose of the Appropriate Assessment (HRA Stage AA2) is to further analyse likely significant effects identified during the screening stage, as well as those effects which were uncertain or not well understood and taken forward for assessment in accordance with the precautionary principle. The assessment should seek to establish whether or not the plan's effects, either alone or in combination with other plans or projects, will lead to adverse effects on site integrity, in view of the site's conservation objectives (see Chapter 3). Site integrity can be described as follows (ODPM, 2005):

*"The integrity of a site is the coherence of its ecological structure and function, across its whole area, that enables it to sustain the habitat, complex of habitats and/or the levels of populations of the species for which it was classified."*

2.4.2 The assessment first focuses on the effects generated by the proposed policies of the Local Plan and considers ways in which they can be avoided altogether. Where adverse effects cannot be avoided by changes to the plan, mitigation measures are introduced to remove or reduce the effects to the level of non-significance. Any residual (non-significant) effects can then be taken forward for further analysis to establish whether they might be expected to become significant in combination with the effects of other plans or projects.

2.4.3 The assessments presented in the following chapters are comprised of the following main sections:

- ▶ Baseline conditions: existing conditions affecting the European sites in relation to the impact being assessed;
- ▶ Impact source: proposals within the plan that cause the effect;
- ▶ Impact pathway: the mechanisms through which the proposed action may adversely affect certain qualifying features;
- ▶ Avoidance and mitigation measures designed into the plan: proposals that aim to avoid and/or reduce the effect, both originally included as part of the plan and recommended during earlier stages of the HRA; and
- ▶ Impact assessment: analysis of the plan's effects on conservation objectives.

2.4.4 The impact assessments consider each of the site's conservation objectives (Chapter 3) in turn and state whether or not the impacts of the plan would prevent the conservation objective from being met. Where one or more objective is impeded, and in accordance with guidance from English Nature (2004; now Natural England), additional factors are considered in order to reach a decision regarding the effects on site integrity. Such factors include:

- Scale of impact;
- Duration of impact and recovery/reversibility;
- Conflicting feature requirements;
- Uncertainty in cause and effect relationships and a precautionary approach.
- Long term effects and sustainability;
- Dynamic systems;
- Off-site impacts; and

## 3 European Sites

### 3.1 Scope of the Assessment

3.1.1 Each European site has its own intrinsic qualities, besides the habitats or species for which it has been designated, that enable the site to support the ecosystems that it does. For example, an intrinsic quality of any European site is its functionality at the landscape ecology scale; in other words, how the site interacts with the zone of influence of its immediate surroundings, as well as the wider area.

3.1.2 Hence the ecological integrity of a site is influenced by natural and human-induced activities in the surrounding environment. This is particularly the case where there is potential for development to take land, generate water or air-borne pollutants, use water resources or otherwise affect water levels, or involve an extractive or noise emitting use. Adverse effects may also occur via impacts to mobile species occurring outside of a designated site but which are qualifying features of the site. For example, there may be effects on protected birds that use land outside the designated site for foraging, feeding, roosting or loafing.

3.1.3 European sites considered within the scope of this assessment include all those within 20km of the borough (excluding sites on the Isle of Wight which are unlikely to be affected by the plan), as depicted by Figure 3.1:

- ▶ Butser Hill (SAC)
- ▶ Solent & Isle of Wight Lagoons (SAC)
- ▶ The New Forest (SAC)
- ▶ Portsmouth Harbour (SPA)
- ▶ The New Forest (SPA)
- ▶ Portsmouth Harbour (Ramsar)
- ▶ The New Forest (Ramsar)
- ▶ River Itchen (SAC)
- ▶ Solent Maritime (SAC)
- ▶ Chichester & Langstone Harbours (SPA)
- ▶ Solent and Southampton Water (SPA)
- ▶ Chichester & Langstone Harbours (Ramsar)
- ▶ Solent and Southampton Water (Ramsar)

### 3.2 Site Accounts

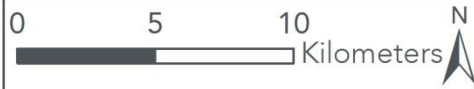
3.2.1 An ecological account of each European site is given in Appendix II.

### 3.3 Qualifying Features

3.3.1 The qualifying features of each site (that is, the reasons for which the sites were designated) are listed in Appendix II and Table 3.1.

# Gosport BC Local Plan

-  Special Area of Conservation
-  Ramsar site
-  Special Protection Area
-  Gosport Borough
-  Local Authority Boundary
-  Gosport Borough 20km Buffer

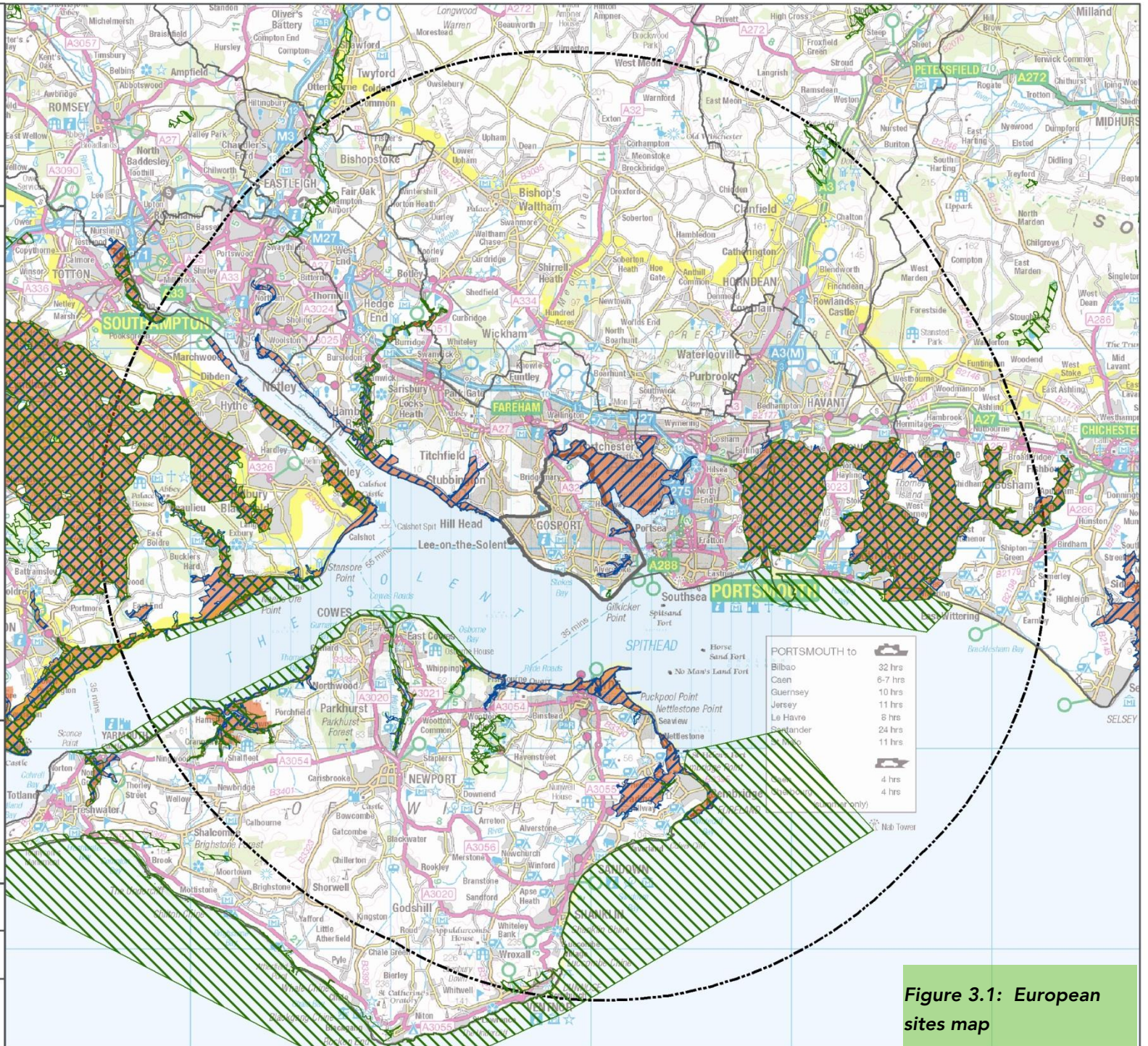


Contains data from Natural England 2012  
Contains Ordnance Survey data  
© Crown copyright and database right [2012]



Unit 5 Westergate  
Business Centre  
Brighton  
BN2 4QN

Scale	1: 251,676	Date	Dec2012
Created by	SS	Reviewed by	NP
Drawing number	UE-0044_GBC_EUSites_2S_20121203		



**Figure 3.1: European sites map**

**Table 3.1: The qualifying features of European sites close to Gosport borough**

Solent & Southampton Water SPA	Solent & Soton Water Ramsar	Chichester & Langstone SPA	Chichester & Langstone Ramsar
<p><b>Breeding</b></p> <ul style="list-style-type: none"> <li>- Little Tern <i>Sterna albifrons</i></li> <li>- Sandwich Tern <i>Sterna sandvicensis</i></li> <li>- Common Tern <i>Sterna hirundo</i></li> <li>- Mediterranean Gull <i>Larus melanocephalus</i></li> <li>- Roseate Tern <i>Sterna dougallii</i></li> </ul> <p><b>Overwintering</b></p> <ul style="list-style-type: none"> <li>- Black-tailed Godwit <i>Limosa limosa islandica</i></li> <li>- Dark-bellied Brent Goose <i>Branta bernicla bernicla</i></li> <li>- Ringed Plover <i>Charadrius hiaticula</i></li> <li>- Teal <i>Anas crecca</i></li> </ul> <p><b>Bird Assemblage</b></p> <ul style="list-style-type: none"> <li>- Over winter the area regularly supports 51,361 individual waterfowl (5 year peak mean 1998)</li> </ul>	<p><b>Criterion 1</b></p> <ul style="list-style-type: none"> <li>- Several outstanding wetland habitat types, including unusual double tidal flow, a major sheltered channel, saline lagoons, saltmarshes, estuaries, intertidal flats, shallow coastal waters, grazing marshes, reedbeds, coastal woodland and rocky boulder reefs</li> </ul> <p><b>Criterion 2</b></p> <ul style="list-style-type: none"> <li>- Nationally rare species assemblage</li> </ul> <p><b>Criterion 5</b></p> <ul style="list-style-type: none"> <li>- Winter assemblage of 51,343 waterfowl (5 year peak mean 02/03)</li> </ul> <p><b>Criterion 6</b></p> <p><b>Breeding</b></p> <ul style="list-style-type: none"> <li>- Sandwich Tern <i>Sterna sandvicensis</i></li> <li>- Common Tern <i>Sterna hirundo</i></li> <li>- Little Tern <i>Sterna albifrons</i></li> <li>- Roseate Tern <i>Sterna dougallii</i></li> </ul> <p><b>Overwintering</b></p> <ul style="list-style-type: none"> <li>- Black-tailed Godwit <i>Limosa limosa islandica</i></li> <li>- Dark-bellied Brent Goose <i>Branta bernicla bernicla</i></li> <li>- Teal <i>Anas crecca</i></li> </ul> <p><b>On passage</b></p> <ul style="list-style-type: none"> <li>- Ringed Plover <i>Charadrius hiaticula</i></li> </ul>	<p><b>Breeding</b></p> <ul style="list-style-type: none"> <li>- Little Tern <i>Sterna albifrons</i></li> <li>- Common Tern <i>Sterna hirundo</i></li> <li>- Sandwich Tern <i>Sterna sandvicensis</i></li> </ul> <p><b>Overwintering</b></p> <ul style="list-style-type: none"> <li>- Bar-tailed Godwit <i>Limosa lapponica</i></li> <li>- Pintail <i>Anas acuta</i></li> <li>- Shoveler <i>Anas clypeata</i></li> <li>- Eurasian Teal <i>Anas crecca</i></li> <li>- Wigeon <i>Anas penelope</i></li> <li>- Turnstone <i>Arenaria interpres</i></li> <li>- Dark-bellied Brent Goose <i>Branta bernicla bernicla</i></li> <li>- Sanderling <i>Calidris alba</i></li> <li>- Dunlin <i>Calidris alpina alpina</i></li> <li>- Ringed Plover <i>Charadrius hiaticula</i></li> <li>- Red-breasted Merganser <i>Mergus serrator</i></li> <li>- Eurasian Curlew <i>Numenius arquata</i></li> <li>- Grey Plover <i>Pluvialis squatarola</i></li> <li>- Shelduck <i>Tadorna tadorna</i></li> <li>- Redshank <i>Tringa totanus</i></li> </ul> <p><b>Bird Assemblage</b></p> <ul style="list-style-type: none"> <li>- Over winter the area regularly supports 93,230 individual waterfowl (5yr peak mean 1998)</li> </ul>	<p><b>Criterion 1</b></p> <ul style="list-style-type: none"> <li>- Two outstanding estuarine basins, the site includes intertidal mudflats, saltmarsh, sand and shingle spits and sand dunes</li> </ul> <p><b>Criterion 5</b></p> <ul style="list-style-type: none"> <li>- Winter assemblage of 76,480 waterfowl (5 year peak mean 1998/99 - 2002/03)</li> </ul> <p><b>Criterion 6</b></p> <p><b>Breeding</b></p> <ul style="list-style-type: none"> <li>- Little Tern <i>Sterna albifrons albifrons</i></li> </ul> <p><b>Overwintering</b></p> <ul style="list-style-type: none"> <li>- Dark-bellied Brent Goose <i>Branta bernicla bernicla</i></li> <li>- Dunlin <i>Calidris alpina alpina</i></li> <li>- Grey Plover <i>Pluvialis squatarola</i></li> <li>- Common Shelduck <i>Tadorna tadorna</i></li> </ul> <p><b>On passage</b></p> <ul style="list-style-type: none"> <li>- Ringed Plover <i>Charadrius hiaticula</i></li> <li>- Black-tailed Godwit <i>Limosa limosa islandica</i></li> <li>- Common Redshank <i>Tringa totanus</i></li> </ul>

Portsmouth Harbour SPA	Portsmouth Harbour Ramsar	River Itchen SAC	Solent Maritime SAC
<p><b><u>Overwintering</u></b></p> <ul style="list-style-type: none"> <li>- Dark-bellied Brent Goose <i>Branta bernicla bernicla</i></li> <li>- Dunlin <i>Calidris alpina alpina</i></li> <li>- Black-tailed Godwit <i>Limosa limosa islandica</i></li> <li>- Red-breasted Merganser <i>Mergus serrator</i></li> </ul>	<p><b><u>Criterion 3</u></b></p> <ul style="list-style-type: none"> <li>- <i>Species assemblage of importance to maintaining biogeographic biodiversity</i></li> </ul> <p><b><u>Criterion 6</u></b></p> <p><b><u>Overwintering</u></b></p> <ul style="list-style-type: none"> <li>- Dark-bellied Brent Goose <i>Branta bernicla bernicla</i></li> </ul>	<p><b><u>Annex I Habitat</u></b></p> <ul style="list-style-type: none"> <li>- Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation</li> </ul> <p><b><u>Annex II Species</u></b></p> <ul style="list-style-type: none"> <li>- White-clawed (or Atlantic stream) crayfish <i>Austropotamobius pallipes</i></li> <li>- Southern damselfly <i>Coenagrion mercuriale</i></li> <li>- Bullhead <i>Cottus gobio</i></li> <li>- Brook lamprey <i>Lampetra planeri</i></li> <li>- Otter <i>Lutra lutra</i></li> <li>- Atlantic salmon <i>Salmo salar</i>.</li> </ul>	<p><b><u>Annex I Habitat</u></b></p> <ul style="list-style-type: none"> <li>- Estuaries</li> <li>- <i>Spartina</i> swards (<i>Spartinion maritimae</i>)</li> <li>- Atlantic salt meadows (<i>Glaucopuccinellietalia maritimae</i>)</li> <li>- Sandbanks - slightly covered by sea water all the time</li> <li>- Mudflats and sandflats not submerged at low tide</li> <li>- Annual vegetation drift lines</li> <li>- Perennial vegetation of stony banks</li> <li>- <i>Salicornia</i> and other annuals colonising mud and sand</li> <li>- Shifting white dunes with <i>Ammophila arenaria</i></li> <li>- Coastal lagoons*</li> </ul> <p><b><u>Annex II Species</u></b></p> <ul style="list-style-type: none"> <li>- Desmoulin's whorl snail <i>Vertigo moulinsiana</i></li> </ul>

The New Forest SPA	The New Forest Ramsar	The New Forest SAC	Solent and IoW Lagoons SAC
<p><b>Breeding</b></p> <ul style="list-style-type: none"> <li>- Nightjar <i>Caprimulgus europaeus</i></li> <li>- Woodlark <i>Lullula arborea</i></li> <li>- Honey Buzzard <i>Pernis apivorus</i></li> <li>- Dartford Warbler <i>Sylvia undata</i></li> </ul> <p><b>Overwintering</b></p> <ul style="list-style-type: none"> <li>- Hen Harrier <i>Circus cyaneus</i></li> </ul>	<p><b>Criterion 1</b></p> <p>Valley mires and wet heaths are found throughout the site and are of outstanding scientific interest. The mires and heaths are within catchments whose uncultivated and undeveloped state buffer the mires against adverse ecological change. This is the largest concentration of intact valley mires of their type in Britain</p> <p><b>Criterion 2</b></p> <p>Diverse assemblage of wetland plants and animals including several nationally rare species. Seven species of nationally rare plant are found on the site, as are at least 65 British Red Data Book species of invertebrate</p> <p><b>Criterion 3</b></p> <p>The mire habitats are of high ecological quality and diversity and have undisturbed transition zones. The invertebrate fauna of the site is important due to the concentration of rare and scarce wetland species. The whole site complex, with its examples of semi-natural habitats is essential to the genetic and ecological diversity of southern England.</p>	<p><b>Annex I Habitat</b></p> <ul style="list-style-type: none"> <li>- Oligotrophic waters containing very few minerals of sandy plains (<i>Littorelletalia uniflorae</i>)</li> <li>- Oligotrophic to mesotrophic standing waters with vegetation of the <i>Littorelletea uniflorae</i> and/or of the <i>Isoëto-Nanojuncetea</i></li> <li>- Northern Atlantic wet heaths with <i>Erica tetralix</i></li> <li>- European dry heaths</li> <li>- <i>Molinia</i> meadows on calcareous, peaty or clayey-silt-laden soils (<i>Molinion caeruleae</i>)</li> <li>- Depressions on peat substrates of the <i>Rhynchosporion</i></li> <li>- Atlantic acidophilous beech forests with <i>Ilex</i> and sometimes also <i>Taxus</i> in the shrublayer (<i>Quercion robri-petraeae</i> or <i>Ilici-Fagenion</i>)</li> <li>- <i>Asperulo-Fagetum</i> beech forests</li> <li>- Old acidophilous oak woods with <i>Quercus robur</i> on sandy plains</li> <li>- Bog woodland *</li> <li>- Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>) *</li> <li>- Transition mires and quaking bogs.</li> <li>- Southern damselfly <i>Coenagrion mercuriale</i></li> <li>- Stag beetle <i>Lucanus cervus</i></li> <li>- Great crested newt <i>Triturus cristatus</i></li> </ul>	<p><b>Annex I Habitat</b></p> <ul style="list-style-type: none"> <li>- Coastal lagoons*</li> </ul> <p><b>Butser Hill SAC</b></p> <p><b>Annex I Habitat</b></p> <ul style="list-style-type: none"> <li>- Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>)</li> <li>- <i>Taxus baccata</i> woods of the British Isles *</li> </ul>

\* Denotes priority feature

### 3.4 SAC and SPA Conservation Objectives

3.4.1 European site conservation objectives are referred to in the Habitats Regulations and Article 6(3) of the Habitats Directive. They are for use when there is a need to undertake an Appropriate Assessment under the relevant parts of the respective legislation. The conservation objectives are also set for each bird feature of an SPA. Where the objectives are met, the site can be said to demonstrate a high degree of integrity and the site itself makes a full contribution to achieving the aims of the Habitats and Birds Directives. The conservation objectives defined by Natural England for the SACs and SPAs within the scope of the assessment are summarised in Box 1.

#### Box 1: Summarised conservation objectives for European sites within the scope of this report

##### Special Protection Areas

With regard to the individual species and/or assemblage of species for which the site has been classified;

Avoid the deterioration of the habitats of the qualifying features, and the significant disturbance of the qualifying features, ensuring the integrity of the site is maintained and the site makes a full contribution to achieving the aims of the Birds Directive.

Subject to natural change, to maintain or restore:

- ▶ The extent and distribution of the habitats of the qualifying features;
- ▶ The structure and function of the habitats of the qualifying features;
- ▶ The supporting processes on which the habitats of the qualifying features rely;
- ▶ The populations of the qualifying features;
- ▶ The distribution of the qualifying features within the site.

##### Special Areas of Conservation

With regard to the natural habitats and/or species for which the site has been designated;

Avoid the deterioration of the qualifying natural habitats and the habitats of qualifying species, and the significant disturbance of those qualifying species, ensuring the integrity of the site is maintained and the site makes a full contribution to achieving Favourable Conservation Status of each of the qualifying features.

Subject to natural change, to maintain or restore:

- ▶ The extent and distribution of qualifying natural habitats and habitats of qualifying species;
- ▶ The structure and function of qualifying natural habitats and habitats of qualifying species;
- ▶ The supporting processes on which qualifying natural habitats and habitats of qualifying species rely;
- ▶ The populations of qualifying species;
- ▶ The distribution of qualifying species within the site.



### **3.5 Conservation Objectives for Ramsar Sites**

- 3.5.1 Ramsar sites do not have agreed conservation objectives, but in most instances overlap with SPA site boundaries. However, it should be noted that Ramsar qualifying features can include a range of habitats and non-bird species common to SAC designations, as well as bird species and assemblages and their supporting habitats, which are common to SPAs.
- 3.5.2 Of the Ramsar sites around Gosport, the Ramsar Convention criteria for the Solent and Southampton Water, Portsmouth Harbour, and Chichester and Langstone Harbours sites overlap substantially with the features of their equivalent SPAs. No additional conservation objectives are defined to assess these features, and those relating to the equivalent SPAs can be used in the assessment.
- 3.5.3 Conversely, the Ramsar criteria for the New Forest overlap with the features of its equivalent SAC. No additional conservation objectives are defined to assess these features, and those relating to the SAC can be used in the assessment.

### **3.6 Key Environmental Conditions Supporting Site Integrity**

- 3.6.1 The Habitats Directive requires that Member States maintain or where appropriate restore habitats and species populations of European importance to favourable conservation status. Guidance from the EC (2000b; p.19) states: *“The conservation status of natural habitat types and species present on a site is assessed according to a number of criteria established by Article 1 of the Directive. This assessment is done both at site and network level”*. In the UK, the term favourable condition has been used to differentiate the status of a site as compared to that of the wider network of European sites.
- 3.6.2 The Habitats Regulations require that an Appropriate Assessment is made of the implications of relevant plans and projects for each site in view of the site’s conservation objectives. To make such an assessment, it is necessary to understand in more detail the features of the sites that contribute to their favourable condition or conservation status. Natural England has published detailed Favourable Condition Tables in which various attributes of the habitat and species populations are defined for assessing site condition. These have been developed from the definition of Favourable Conservation Status provided in Article 1 of the Habitats Directive (Box 2 overleaf). Drawing on the Favourable Condition tables, a number of key environmental conditions that support site integrity can be identified; these are summarised in Appendix II.

### Box 2: Extract from Managing Natura 2000 Sites (EC, 2000)

Conservation status is defined in Article 1 of the Habitats Directive. For a **natural habitat**, Article 1(e) specifies that it is: *'the sum of the influences acting on a natural habitat and its typical species that may affect its long-term natural distribution, structure and functions as well as the long-term survival of its typical species ...'*.

For a species, Article 1(i) specifies that it is: *'the sum of the influences acting on the species concerned that may affect the long-term distribution and abundance of its population ...'*

The Member State has therefore to take into account all the influences of the environment (air, water, soil, territory) which act on the habitats and species present on the site.

Favourable conservation status is also defined by Article 1(e) for natural habitats and Article 1(i) for species.

For a natural habitat, it occurs when:

- *'its natural range and areas it covers within that range are stable or increasing;*
- *the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future; and*
- *the conservation status of its typical species is favourable'.*

For a **species**, it occurs when:

- *'the population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats;*
- *the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future; and*
- *there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis'.*

The favourable conservation status of a natural habitat or species has to be considered across its natural range, according to Articles 1(e) and 1(i), i.e. at biogeographical and, hence, Natura 2000 network level. Since, however, the ecological coherence of the network will depend on the contribution of each individual site to it and, hence, on the conservation status of the habitat types and species it hosts, the assessment of the favourable conservation status at site level will always be necessary.

The conservation status of natural habitat types and species present on a site is assessed according to a number of criteria established by Article 1 of the Directive. This assessment is done both at site and network level.

## 4 Atmospheric Pollution

### 4.1 Baseline Conditions

- 4.1.1 Atmospheric pollution is a widespread issue, with background air quality heavily influenced by large point-source emitters including transboundary sources. Local pollutant sources can affect designated sites, particularly in relation to protected habitats within SACs, and especially from road traffic emissions. The Local Plan cannot feasibly influence causes of background pollution such as large point sources but, through its spatial distribution of development and sustainable transport measures, will affect the way in which locally emitted pollutants reach each site.
- 4.1.2 The main pollutant effects of interest are acid deposition and eutrophication by nitrogen deposition. The following brief descriptions draw on information presented through the Air Pollution Information System<sup>2</sup> (APIS).
- 4.1.3 Acid deposition: caused by oxides of nitrogen (NO<sub>x</sub>) (or sulphur dioxide) reacting with rain/cloudwater to form nitric (or sulphuric) acid, and is caused primarily by energy generation, as well as road traffic and industrial combustion. Both wet and dry acid deposition have been implicated in the damage and destruction of vegetation (heather, mosses, liverworts and lichens are particularly susceptible to cell membrane damage due to excessive pollutant levels) and in the degradation of soils and watercourses (including acidification and reduced microbial activity).
- 4.1.4 Eutrophication by nitrogen deposition: consists of the input of nitrogen from NO<sub>x</sub> (and sometimes ammonia) emissions by deposition, and is caused primarily by road traffic, as well as energy generation, industrial combustion and agricultural practices. Nitrogen deposition can cause direct damage to heather, mosses, liverworts and lichens, as well as other plant species, because of their sensitivity to additional atmospheric nitrogen inputs, whilst deposition can also lead to long term compositional changes in vegetation and reduced diversity. For example a marked decline in heather and an increased dominance of grasses have been observed throughout the Netherlands and also in the East Anglian Brecklands (see for example Bobbink et al (1993) and Pitcairn et al (1991)).
- 4.1.5 Furthermore, while plants are able to detoxify and assimilate low exposure to atmospheric concentrations of NO<sub>x</sub>, high levels of uptake can lead to detrimental impacts including:
- ▶ Inhibition of pigment biosynthesis, leading to reduced rates of photosynthesis;
  - ▶ Water soaking as NO<sub>2</sub> molecules attach to lipids in membranes, causing plasmolysis (removal of water) and eventually necrosis;
  - ▶ Inhibition of lipid biosynthesis, leading to reduced rates of regeneration and growth;
  - ▶ Injury to mitochondria and plastids, essential to internal processing of energy & proteins;

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<sup>2</sup> Online at: <http://www.apis.ac.uk/index.html> [Accessed 17/10/12]

- ▶ Decrease in stomatal conductance of air and water vapour; and
  - ▶ Inhibition of carbon fixation (at least under low light levels).
- 4.1.6 A Partnership for Urban South Hampshire (PUSH) research report (AEAT, 2010) notes that the critical load or level for each of these pollutant classes is already exceeded or approaching exceedance at background locations, away from roads across large parts of the sub-region. Nilsson and Grennfelt (1988) define critical loads and levels as “a quantitative estimate of exposure to one or more pollutants below which significant harmful effects on specified sensitive elements of the environment do not occur according to present knowledge”. Critical loads concern the quantity of pollutants deposited from the air to the ground (for example nitrogen deposition and acid deposition), whilst critical levels concern the gaseous concentration of a pollutant in the air (for example nitrogen oxides).
- 4.1.7 Appendix III presents data available through APIS on background critical load/level exceedances for these key pollutants types (three year averages to 2008). A selection of grid references within European sites on or close to the road network connecting to Gosport were chosen to interrogate APIS (Figure 4.1) because beyond 200m effects from road sources diminish to the equivalent of background levels (Laxen & Wilson (2002), DfT (2005)).
- 4.1.8 For each grid reference, the actual and critical load/level was obtained for acid deposition, nutrient deposition and NO<sub>x</sub> in relation to a representative qualifying habitat type, or closest available match thereto, within European sites of interest (Butser Hill, New Forest, River Itchen and Solent Maritime SACs; Chichester and Langstone Harbours, Portsmouth Harbour, Solent and Southampton Water and New Forest SPAs/Ramsars). Cells shaded in red indicate an exceedance, whereas those shaded in amber indicate that the background load/level is more than 70% the critical load/level i.e. it is approaching exceedance.
- 4.1.9 As can be seen, all sites have an exceedance for at least one of the selected grid reference locations / pollution types, except for Portsmouth Harbour SPA/Ramsar and Solent and Southampton Water SPA/Ramsar which are approaching exceedance.
- 4.1.10 It should be noted that Portsmouth Harbour SSSI units at grid references 5, 6 and 7 (adjacent to B3333 South Street, A32 Gosport Road and A27 Eastern Way, respectively) are assessed as ‘unfavourable, recovering’. The latest condition assessment for SSSI unit 4 (grid reference 5) from October 2009 discusses excessive algal weed and diffuse pollution impacts which are being addressed through the South Downs and Harbours Clean Water Partnership Delivery Strategy. The condition assessments for SSSI units 10 and 21 (grid references 6 and 7) from October 2010 discuss diffuse water pollution, excessive algal weed growth, coastal squeeze, bird disturbance, bait digging and clam dredging as issues affecting the condition of the units. The condition assessments make no reference to air pollution.

# Gosport BC Local Plan

-  APIS Grid Ref Locations
-  A Road
-  B Road
-  Motorway
-  Special Area of Conservation
-  Ramsar site
-  Special Protection Area
-  Gosport Borough
-  Local Authority Boundary
-  Gosport Borough 20km Buffer

0 2 4  
Kilometers



Contains data from Natural England 2012  
Contains Ordnance Survey data  
© Crown copyright and database right [2012]



ENVIRONMENTAL  
CONSULTING  
Tower Point  
44 North Road  
Brighton  
BN1 1YR

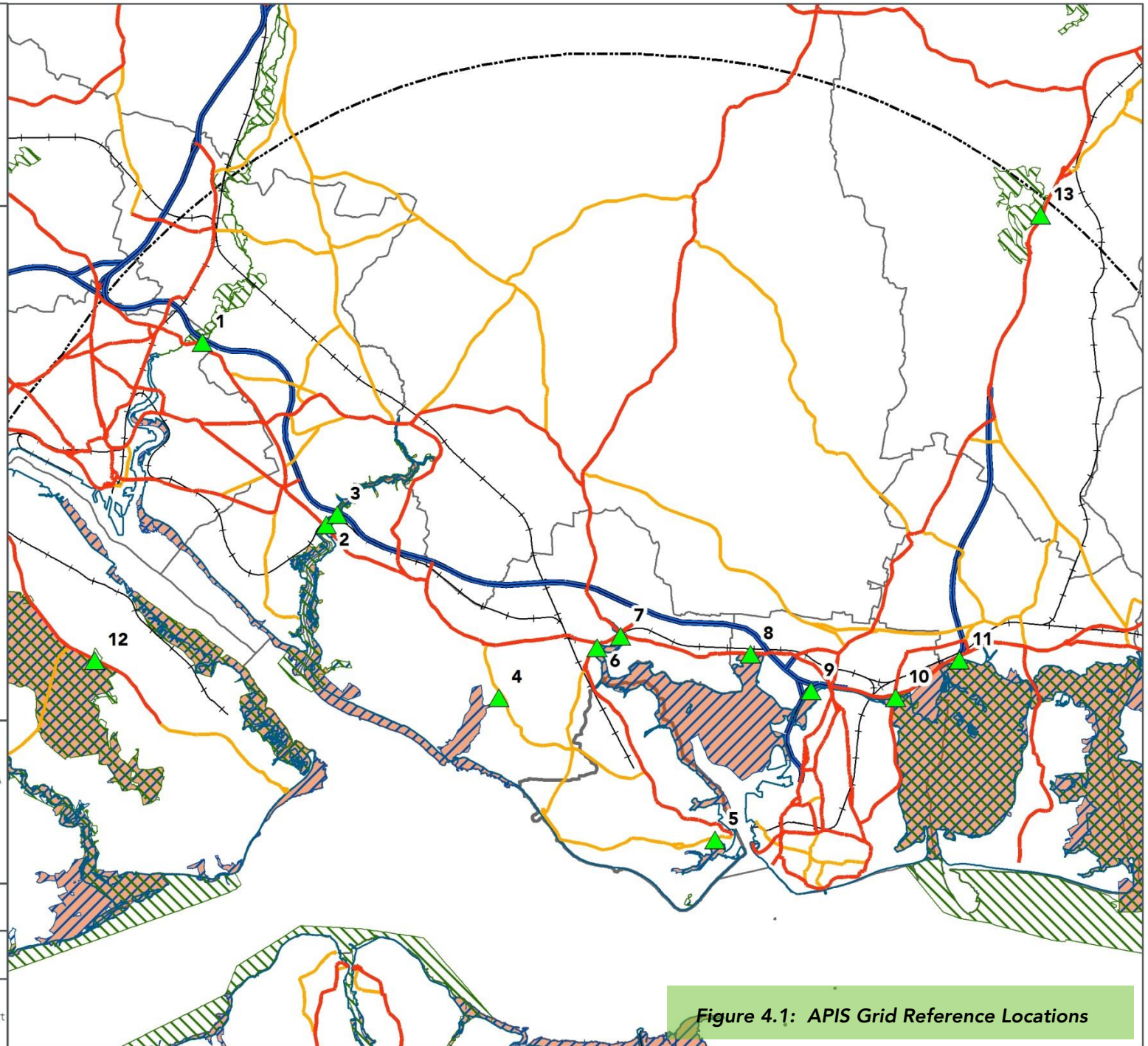
Scale  
1: 161,193

Date  
Oct2012

Created by  
SS

Reviewed by  
NP

Drawing number  
UE-0044\_GBC\_EUSites&Transport  
\_APIS\_20121017



**Figure 4.1: APIS Grid Reference Locations**

## 4.2 Impact Source

4.2.1 As can be seen, nitrogen plays an important role in all impact mechanisms. Sulphur dioxide emissions, which have decreased significantly in the UK over the last two to three decades through tighter regulation, are generally associated with centralised power generation, while ammonia emissions are closely related to agricultural sources and some industrial processes. The Local Plan does not promote new centralised energy generation facilities or significant changes to the borough's agricultural economy.

4.2.2 Over half of all emissions of nitrogen and nitrogen oxides in the UK are the result of vehicle exhausts, with an estimated 92% of those associated with residential development being contributed by road traffic (Dore et al, 2005). Nitrogen emissions and associated ammonia from traffic generated by residential and commercial developments will therefore be the focus of this part of the assessment. The impact can thus be attributed to the following policies:

- LP4 Gosport Waterfront & Town Centre
- LP5 Daedalus
- LP6 Haslar Peninsular
- LP7 Rowner
- LP9A Other Allocations: Mixed Use
- LP9B Other Allocations: Economic Devt
- LP9C Other Allocations: Employment
- LP9D Other Allocations: Residential
- LP9E Other Allocations: Leisure, Community and Open Space

## 4.3 Impact Pathway

4.3.1 The Design Manual for Roads and Bridges (DMRB; Highways Agency, 2007) provides guidance on assessing the impact that road projects may have on local air quality. Specific provision is made in relation to sites designated under the Habitats Directive. In this instance the assessment is in relation to existing, as opposed to new roads, however the guidance clarifies that '*where appropriate, the advice may be applied to existing roads*'.

4.3.2 DMRB provides a scoping assessment for local air quality and initially requires the identification of roads which are likely to be affected by the proposals. The criteria for defining an affected road are:

- ▶ Road alignment will change by 5 metres or more; or
- ▶ Daily traffic flows will change by 1,000 annual average daily traffic (AADT) or more; or
- ▶ Heavy Duty Vehicle (HDV) flows will change by 200 AADT or more; or
- ▶ Daily average speed will change by 10km/hr or more; or
- ▶ Peak hour speed will change by 20km/hr or more.

4.3.3 The scoping assessment then requires that nature conservation sites (e.g. SAC/SPA/Ramsar) within 200m of the road and their characteristics be identified. Beyond 200m effects from this source diminish to the equivalent of background levels (Laxen & Wilson (2002), DfT (2005)).

- 4.3.4 The guidance states that if none of the roads in the network meet the traffic/alignment criteria (that is, they are not affected roads) or there are no relevant designated sites near the affected roads, then the impact of the scheme can be considered neutral in terms of local air quality and no further work is needed. Figure 4.1 identifies points on the strategic highway network which fall within 200m of SAC/SPA/Ramsar sites close to Gosport. The Local Plan does not propose to change the alignment of any of these roads by 5m or more, and so the next step is to consider how traffic flow on these roads could change as a result of the plan.
- 4.3.5 The Council commissioned specific model runs within the South Hampshire Sub-regional Transport Model (SRTM) (MVA, draft 2013) to explore potential future growth in traffic associated with the Local Plan. Three model runs were carried out as follows:
- ▶ Scenario 1: Local Plan (2031 model date) Do Minimum: No Gosport Local Plan development;
  - ▶ Scenario 2: Local Plan (2031 model date) Do Something: Gosport Local Plan development including Waterfront; and
  - ▶ Scenario 3: Waterfront (2031 model date) Do Minimum: Gosport Local Plan development excluding Waterfront.
- 4.3.6 The SRTM base year is 2010. In order to account for completions in Gosport for the intervening period to 2013, planning permissions and future allocations in Gosport beyond 2013, and strategic developments close to Gosport, a number of assumptions were included within the model; see Table 4.1. These are in addition to the standard SRTM reference case assumptions given in the MVA report (draft 2013, Appendix B).
- 4.3.7 The model outputs are presented as AM peak, inter-peak and PM peak traffic flows which the transport consultants subsequently converted to AADT for use in the HRA. The results are summarised in Table 4.2 for Scenario 1 (no Local Plan) and Scenario 2 (full Local Plan including Waterfront), where the column headed "GR" relates to the grid reference locations referred to in Figure 4.1 and Appendix III.
- 4.3.8 The figures suggest that increases in traffic on the strategic road network as a consequence of Local Plan development in Gosport, in combination with planned development elsewhere in the sub-region, will be concentrated within the borough and its immediate surroundings. A marginal increase of 95 AADT (two-way) is predicted on Titchfield Road B3334 to the west of the borough, while decreases of -62 and -100 AADT (two-way) are anticipated on the A27 Southampton Road and M275 to M27 link respectively, to the east of the borough. None of the modelled two-way flow increases predicted to result from the Local Plan exceed the 1,000 AADT threshold listed in the DMRB guidance.
- 4.3.9 The scope of the transport assessment did not extend far enough across the road network to give an indication of traffic flow changes on other junctions or links in close proximity to Butser Hill SAC, River Itchen SAC, Solent Maritime SAC, New Forest SAC/SPA/Ramsar or Chichester and Langstone Harbours SPA/Ramsar. However, it is suggested that if flow increases on roads much closer to sources of traffic related to Gosport development are unlikely to be sufficient to generate negative effects, such impacts are likely to be less significant still further afield. These sites are not therefore considered further.

**Table 4.1: Assumptions included within SRTM for Gosport**

Location:	Residential (dwellings):	Employment / retail / leisure (m <sup>2</sup> ):	Transport:
Welborne (north of Fareham SDA)	6,500	Employment: 112,000	M27J10 upgrade to all-moves (no link to M27J11) BRT (Fareham-Welborne-Portsmouth (via A27&M27))
Daedalus within Gosport	350	B1: 56,244; B8: 18,748; Retail: 1,075; Leisure: 12,480	Newgate Lane widening (northern section)
Daedalus within Fareham	0	B1: 37,652; B8: 12,550 Retail: 0; Leisure: 1,710	Peel Common roundabout partial signalisations
GBC completions 2010-13	457	B2: 1,521; Retail: 556 Leisure: 3,884	Off-carriageway BRT extension to Rowner Road On-carriageway BRT priority, Rowner Road – Gosport ferry terminal LSTF schemes BBAF schemes
GBC commitments 2013→ (excl. Daedalus)	488	B1: 392; B2: 3,590 Retail: 7,101; Leisure: 290	
GBC allocations → 2029	1,794 (incl. Waterfront) 1,094 (excl. Waterfront)	B1: 2,250; B2: 27,115 Retail: 500; Leisure: 500	

BRT: Bus Rapid Transit; LSTF: Local Sustainable Transport Fund; BBAF: Better Bus Area Fund

**Table 4.2: Increases in 2-way AADT traffic flow on roads passing within 200m of European sites close to Gosport (Source: MVA, draft 2013)**

GR	Link	Sc1: No Local Plan	Sc2: Full Local Plan	Sc2 minus Sc1
4	Titchfield Rd B3334	21,451	21,545	95
5	Bury Rd (EB) / South St (WB)	6,549	7,103	554
6	A32 Gosport Rd	61,835	62,362	527
7a	A32 Gosport Rd	61,038	61,556	518
7b	A27 Eastern Way	60,532	60,849	317
7c	A27 East of Delme Rdbt	57,689	57,956	268
8	A27 Southampton Rd	23,012	22,950	-62

#### 4.4 Avoidance and Mitigation Integral to Plan

4.4.1 Gosport borough is a sustainable location in which to focus development. It is a built-up area served relatively well by public transport, has a Local Transport Plan that promotes walking, cycling and public transport, and a mix of current and planned land uses that will help to reduce



the need to travel. Policy proposals in the Local Plan which may help to improve overall air quality include policies LP34 (new and existing open space), LP41 (green infrastructure) and LP46 (pollution). The explanatory text to LP46 explicitly refers to the need to demonstrate that major schemes will not have a detrimental impact on internationally important habitats. More generally, the Local Plan's transport policy seeks to improve infrastructure and accessibility through a 'reduce, manage, invest' to transport planning, in line with the Local Transport Plan and recommendations made during earlier iterations of the HRA. In particular, policies LP21 and LP22 include the following requirements among other things:

- ▶ Development sites to be located close to convenient public transport services, or commitments to provide an adequate service;
- ▶ Accessibility for pedestrians and cyclists;
- ▶ Avoidance of unacceptable environmental implications from any new or improved road access;
- ▶ Contributions to local and strategic transport improvements;
- ▶ Transport Statements, Transport Assessments and Travel Plans to be prepared;
- ▶ Safe and convenient routes for cyclists and pedestrians;
- ▶ Existing public rights of way to be safeguarded or enhanced;
- ▶ Provision for bus access;
- ▶ Traffic management measures; and
- ▶ Charging points for electric vehicles.

4.4.2 Moreover, while policy LP42 provides specific protection for European sites, LP3 includes the following provision in response to recommendations made during earlier iterations of the HRA:

- ▶ *"Development likely to have an individual or cumulative adverse impact on internationally important habitats will not be permitted unless the necessary avoidance and mitigation measures have been secured..."*

4.4.3 The explanatory text for this part of the policy expands on this requirement, stating that:

*"The Council recognises that additional growth in the Borough, in-combination with growth in neighbouring authorities, could, without appropriate management and mitigation, lead to adverse effects upon European sites and other sites that support their integrity.*

*"In order to prevent such effects, the Council will continue to work with other local authorities (including through PUSH) and relevant organisations to develop and implement a strategic approach to protecting European sites from recreational pressure and other impacts of development. This will include a suite of mitigation measures, including adequate provision of alternative recreational space and support via developer contributions for access management measures within and around the European sites in the Solent and the New Forest.*

*“New residential development will be required to contribute towards relevant mitigation measures relating to recreation disturbance as identified by the Solent Disturbance and Mitigation Project. Natural England has confirmed that without the appropriate necessary measures development should not be permitted. Further details are set out as part of Policy LP42.*

*“The Council with its partners will, through on-going monitoring<sup>3</sup>, scrutinise the effectiveness of the sub-regional approach to avoidance and mitigation of effects on European sites. It will adjust the rate, scale and distribution of development across the Borough to respond to the findings of new evidence where appropriate, in order to preserve the integrity of the European sites.”*

#### **4.5 Impact Assessment**

- 4.5.1 Table 4.3 uses the conservation objectives for Portsmouth Harbour SPA/Ramsar and Solent and Southampton Water SPA/Ramsar as a checklist to determine whether adverse effects on ecological integrity are likely to occur as a result of the plan (adapted from English Nature, 2004).

#### **4.6 Conclusions**

- 4.6.1 It can be concluded that there will be no adverse effects as a result of atmospheric pollution, and that the plan is Habitats Regulations compliant in this respect.

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<sup>3</sup> This includes ecological evidence from Natural England, the Council’s Annual Monitoring Report, work relating to the PUSH Green Infrastructure Strategy and the Solent Disturbance and Mitigation Study, on-going air quality management and visitor surveys.

**Table 4.3: Assessment of effects on integrity, in view of the sites' conservation objectives**

Has the Appropriate Assessment shown that there will be no negative impact on...?	Y/N
<b>Portsmouth Harbour SPA/Ramsar and Solent and Southampton Water SPA/Ramsar</b>	
The extent and distribution of the habitats of the qualifying features	Yes
<p>Traffic modelling was undertaken to explore how the Local Plan could affect European site integrity through road traffic emissions associated with planned development. This demonstrates that traffic flow increases would not be of a significant nature, and that none of the roads close to the European sites are "affected roads" as defined by DMRB guidance. It is concluded that the extent and distribution of the habitats of the qualifying features will not be affected.</p>	
The structure and function of the habitats of the qualifying features	Yes
<p>Traffic modelling was undertaken to explore how the Local Plan could affect European site integrity through road traffic emissions associated with planned development. This demonstrates that traffic flow increases would not be of a significant nature, and that none of the roads close to the European sites are "affected roads" as defined by DMRB guidance. It is concluded that the structure and function of the habitats of the qualifying features will not be affected.</p>	
The supporting processes on which the habitats of the qualifying features rely	Yes
<p>Traffic modelling was undertaken to explore how the Local Plan could affect European site integrity through road traffic emissions associated with planned development. This demonstrates that traffic flow increases would not be of a significant nature, and that none of the roads close to the European sites are "affected roads" as defined by DMRB guidance. It is concluded that the supporting processes on which the habitats of the qualifying features rely will not be affected.</p>	
The populations of the qualifying features	Yes
<p>Traffic modelling was undertaken to explore how the Local Plan could affect European site integrity through road traffic emissions associated with planned development. This demonstrates that traffic flow increases would not be of a significant nature, and that none of the roads close to the European sites are "affected roads" as defined by DMRB guidance. It is concluded that the populations of the qualifying features will not be affected.</p>	
The distribution of the qualifying features within the site	Yes
<p>Traffic modelling was undertaken to explore how the Local Plan could affect European site integrity through road traffic emissions associated with planned development. This demonstrates that traffic flow increases would not be of a significant nature, and that none of the roads close to the European sites are "affected roads" as defined by DMRB guidance. It is concluded that the distribution of the qualifying features within the site will not be affected.</p>	

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## 5 Disturbance: Strategic Impacts

### 5.1 Baseline Conditions

- 5.1.1 Population growth associated with residential development brings with it the prospect of additional visitor pressure on European sites. There is particular concern over the capacity of existing open spaces adjacent to or within European sites to accommodate additional visitor pressure resulting from planned strategic residential development targets across South Hampshire, and development and promotion of tourism (particularly along the coast), without adverse effects on European site integrity, particularly those designated for an internationally important bird assemblage.
- 5.1.2 Impacts associated with disturbance from recreation differ at coastal and inland areas, and between seasons, species, and individuals. Birds' responses to disturbance can be observed as behavioural or physiological, with possible effects on feeding, breeding and taking flight. Disturbance can be caused by a wide variety of activities and, generally, both distance from the source of disturbance and the scale of the event will influence the nature of the response. Factors such as habitat, food requirements, breeding behaviour, cold weather, variations in food availability and flock size, will influence birds' abilities to respond to disturbance and hence the scale of the impact (Stillman *et al*, 2009).
- 5.1.3 On the other hand, birds can modify their behaviour to compensate for disturbance, for example by feeding for longer time periods. Some birds can become habituated to particular disturbance events or types of disturbance, and this habituation can develop over short time periods (Stillman *et al*, 2009). The New Forest SPA will therefore be experiencing different challenges as a result of recreational pressure than Portsmouth, Langstone and Chichester Harbours, and Solent and Southampton Water SPA/Ramsar.
- 5.1.4 At the New Forest, it is the ground and near-ground nesting birds that are particular receptors of negative effects, such as Dartford warbler, nightjar and woodlark. Studies by Langston *et al* (2007), Liley and Clarke (2003), and Murison (2002) investigated the effect of disturbance on the nightjar on heaths in Dorset, finding that breeding success of nightjar is significantly lower close to paths, and that proximity to housing has a negative relationship with the size of the population (Langston *et al*, 2007). The most common cause of breeding failure for this ground-nesting species was due to daytime predation of eggs when disturbance caused an incubating bird to leave the nest. Similarly, the study by Murison *et al* (2007) revealed that for Dartford warbler on Dorset heathland, disturbance also reduced breeding activity, particularly so in heather-dominated territories. Birds in heavily disturbed areas (eg, close to access points and car parks) delayed the start of their breeding by up to six weeks, preventing multiple broods and so reducing annual productivity. Most of this disturbance was found to come from dog-walkers as a result of dogs being encouraged to run through the vegetation after sticks.

5.1.5 At the coastal areas, it can be helpful to divide impacts into the effects of disturbance on overwintering birds, or on breeding birds (Stillman *et al*, 2009). Impacts to wintering birds are thought to be centred on interruption to foraging, and also roosting, and individuals alter their threshold in response to shifts in the basic trade-off between increased perceived predation risk (tolerating disturbance) and the increased starvation risk of not feeding (avoiding disturbance) (Stillman *et al*, 2009). During the breeding season, impacts on shorebirds are akin to those on ground-nesting inland birds, in that predation of eggs, as well as trampling and increased thermal stress, when birds flush the nest in response to a disturbance event has a negative impact on breeding success (Stillman *et al*, 2009).

## 5.2 Impact Source

5.2.1 The screening exercise identified the residential elements of the following policies as the drivers of increasing disturbance to birds as a result of recreational pressure:

- LP4 Gosport Waterfront & Town Centre
- LP5 Daedalus
- LP6 Haslar Peninsular
- LP7 Rowner
- LP9A Other Allocations: Mixed Use
- LP9D Other Allocations: Residential

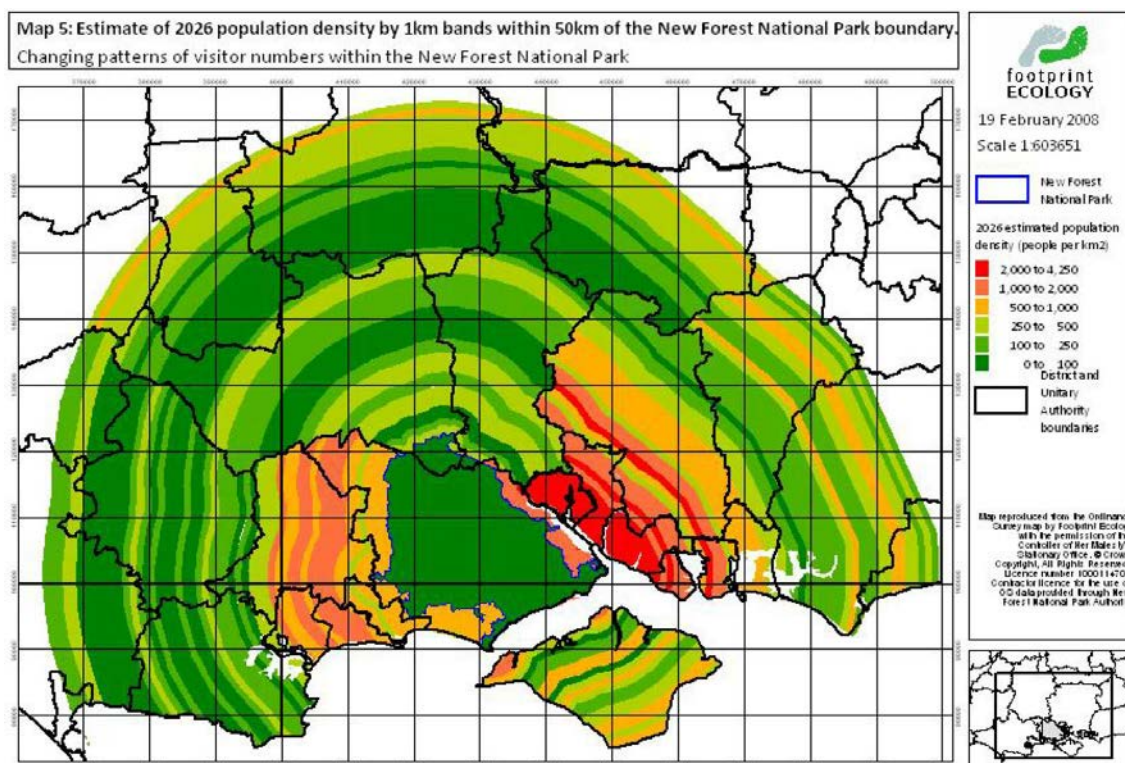
## 5.3 Impact Pathway

5.3.1 Two studies have examined the sources and mechanisms of these impacts: Sharp *et al* (2008) analysed patterns of visiting activity at the New Forest, while the Solent Disturbance and Mitigation Project is an ongoing study aiming to model the impacts of development and visitor pressure along the Solent coastline.

### **New Forest**

5.3.2 Analysis of changing patterns of visitor behaviour in the New Forest informs this section (Sharp *et al*, 2008). The report shows that most day visitors to the Forest, and a large proportion of total visitors, come from within 20km of the National Park boundary, while between 78% and 95% of visits are made by car. The report states that the estimated number of current annual visits to the New Forest (over 13 million per year) is predicted to increase by 1.05 million visits annually by 2026 based on sub-regional development objectives at the time the work was carried out.

5.3.3 Sharp *et al* (2008) estimate that around three quarters (764,000) of this annual total increase will originate from within the first 10km from the Forest. Separating distances into individual 1km bands, between 10,000 and 50,000 additional visitors will originate from within each of the bands 8 to 18 km from the Forest in any direction. At its closest point, Gosport borough lies approximately 11.5km from the New Forest as the crow flies. Approximately 3,000 – 4,000 additional visitors per year will come from within each 1km band (in any direction) from the Forest beyond a distance of 20km. See for example Figure 5.1 which depicts the estimated population density within each distance band by 2026. New residential development promoted by the Local Plan will therefore fall within the sphere of potential influence on the New Forest.



**Figure 5.1: Estimate of 2026 population density in areas surrounding the New Forest (Source, Sharp et al, 2008)**

- 5.3.4 As an illustration of a planning policy response to this situation, the Southampton Core Strategy recognises the likely recreational pressure associated with additional growth in the City (16,300 new dwellings in total). Policy CS22 (Protecting and Enhancing Open Space) sets out the Council's commitment to retain, enhance and supplement the City's existing multi-functional open spaces, and refers to the Council's joint-working with the landowner and Test Valley Borough Council to develop a new forest park at Lords Wood on the northern city boundary in order to relieve pressure on the New Forest.
- 5.3.5 This is intended to provide residents with a nearby Suitable Alternative Natural Greenspace (SANG), to absorb additional recreational pressure resulting from residential development in the City. Test Valley Borough Council published a feasibility study for the project in March 2011, and plans are currently progressing to implement the proposal over the plan period for the borough. Despite planned provision of alternative sites such as Lords Wood, a residual number of visits to the New Forest are always likely to remain because of the very high quality experience it offers and difficulty in recreating this elsewhere. Furthermore Sharp et al (2008) demonstrate that it is not just Southampton and Test Valley developments that will lead to impacts at the New Forest, and it is probable that a strategic approach to managing access will be required.
- 5.3.6 The National Park's *Recreation Management Strategy* (2010) seeks to reconcile visitor activity with nature conservation within the Forest and manage recreational access accordingly. It explores a range of recreation management tools, including: a survey and research programme to inform future decisions; provision of new areas of green infrastructure; selective locations for enhanced visitor facilities; and limitations on car parking provision. Together, delivering SANGs

and the *Recreation Management Strategy* constitute a series of projects to which development outside of the New Forest can contribute financially, providing a mechanism for ensuring the impacts of residential development can be mitigated.

### **Coastal areas**

- 5.3.7 The Solent Disturbance and Mitigation Project (SDMP) was initiated in response to concerns over the impact of disturbance on coastal birds and their habitats. Phase 1, 2 and 3 are complete and some of the key findings from the project are presented in this section. The focus of the project is on the likely effect of increased visitor pressure and recreational use arising from planned strategic development in the Solent area, in relation to disturbance impacts to overwintering birds within the SPAs and Ramsars.
- 5.3.8 The Solent provides locations for a wide range of recreational activities and the project shows that there are high levels of housing around the Solent shoreline, with particularly high densities in the urban areas of Southampton and Portsmouth. An estimated 1.44 million people live within a ten minute drive of a car park at the Solent coast (Stillman *et al*, 2009). Tourists make up a significant proportion of visitors at some sites, although sites vary in their attractiveness to tourists, suitability for particular kinds of access, and accessibility to the local population.
- 5.3.9 To the east of Southampton Water there are much higher densities of housing and at many sites local people are likely to account for a higher proportion of visitors. Sites such as Hayling Island have holiday accommodation and attract staying tourists. Future development is likely to result in a large increase in the residential population, particularly in the vicinity of Southampton, Portsmouth and Fareham. But monitoring of recreational access has been limited to date, making it difficult to determine how patterns of access have changed over time and how they may change in the future. As the document states, '*in order to determine how new housing might change visitor levels in the future it will be necessary to separate local visitors from tourists, categorise visitors according to the activities undertaken at sites and take into account the variation between sites in terms of attractiveness and suitability for different activities*' (Stillman *et al*, 2009, p36).

### **Early results from visitor surveys and bird observations**

- 5.3.10 Phase 2 of the project ran from 2009 to 2012, and gathered data on bird numbers (including one site in Gosport borough at Alverbank East (site 37), and two sites nearby in Fareham borough at Salterns Park, Stubbington (site 34) and Salterns Quay, Fareham (site 44)) and their responses to various forms of recreational disturbance, while visitor surveys established visiting patterns at specific sites (including at the same three sites near Gosport). Household surveys explored which locations are most popular and why. Phase 2 culminated in a modelling exercise to predict the disturbance response effects on birds at hotspots of recreational visiting activity. Phase 3 will combine the findings of earlier phases in order to determine how development planning can influence these responses, and ways in which impacts might be mitigated.
- 5.3.11 Reports from phase 2 of the project provide a snapshot of visiting activity at Alverbank East, Salterns Park and Salterns Quay, together with birds' responses to disturbance effects. It is



important to note that the project seeks to provide evidence at a strategic level across the Solent and within designated sites, and that the data is not intended for use in determining the effects of disturbance at a local level. Moreover the project is designed to use bird disturbance survey data together with visitor survey data, household survey data and bird food supply data to model current and future visitor pressure and disturbance. This is important as data at a local level may not have sufficient sample size or suitable context to make meaningful local conclusions. More detailed local surveys, including surveys of visitor behaviour, will therefore be necessary to inform project level assessments.

5.3.12 Local data from phase 2 reports provide helpful contextual information. The visitor surveys found that the majority of reasons given for visiting the sites were for walking at Salterns Park and Alverbank East (63% and at 70% respectively) and for dog-walking at Salterns Quay (86%) (Fearnley *et al*, 2010). The majority of visitors to Salterns Park and Alverbank East arrived by car (62% and 55% respectively) while most visits to Salterns Quay were by foot (81%). The average distances people travelled to the sites were 2.3km for Salterns Park, 2.0km for Alverbank East and 0.5km for Salterns Quay in Fareham.

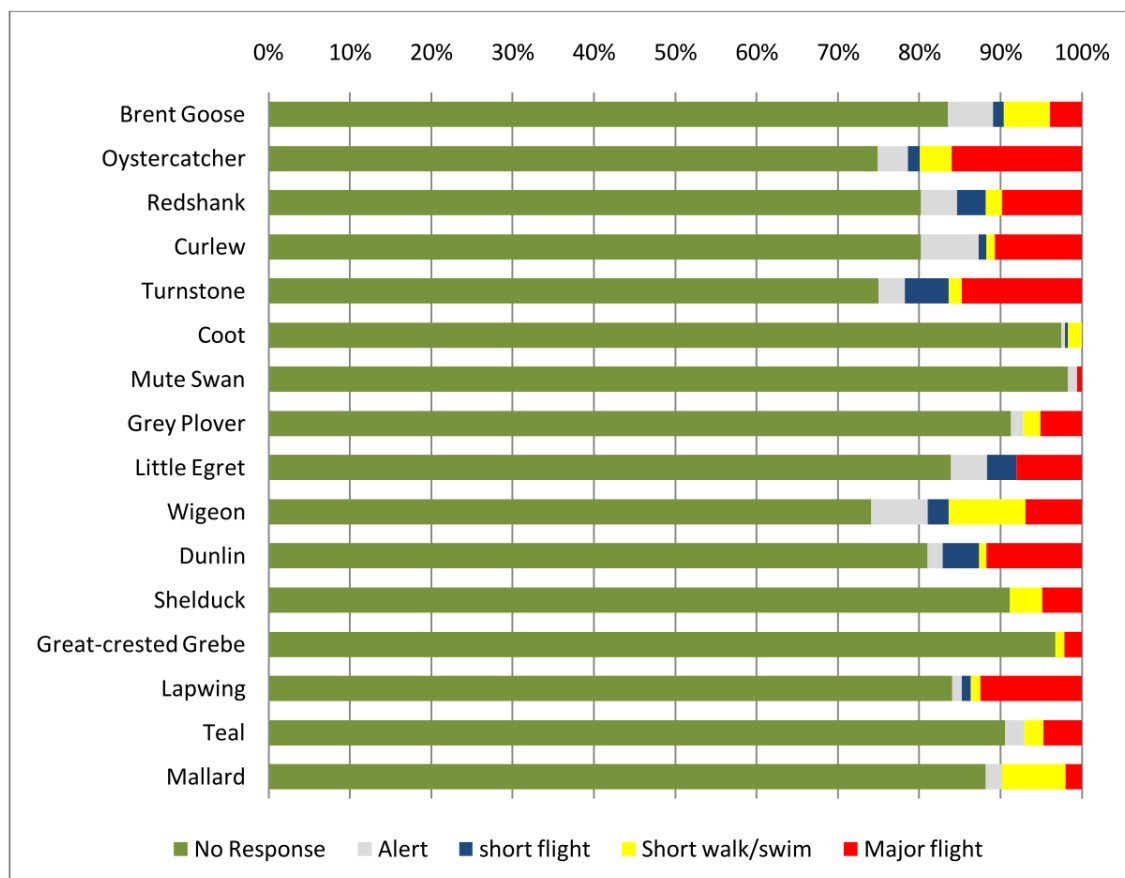
5.3.13 The phase 2 bird disturbance fieldwork (Liley *et al*, 2010) revealed that Salterns Park was first among 20 different sites survey for the number of disturbance events that lead to a change in bird behaviour; Salterns Quay was sixth out of 20 and Alverbank East was twentieth. However, the data was also analysed according to the percentage of potential disturbance events that led to a change in bird behaviour. This indicates that birds utilising areas around Salterns Park, Salterns Quay and Alverbank East appear to be relatively well habituated to human activity. At Salterns Park, of the 340 observations recorded, 75% were categorised as birds exhibiting ‘no response’; 25% resulted in a change of behaviour (five were uncategorised). At Salterns Quay, of 247 observations, 83% led to ‘no response’ and 17% resulted in a change of behaviour, and at Alverbank East 95% of 44 observations led to no response. The results across all categories of bird response for the three sites are summarised in Table 5.1.

**Table 5.1: Number of observations (events within 200m of birds at each site) and the responses, by site (Source: Liley *et al*, 2010)**

Site	Response of birds							% Disturbed
	Total observations	No response	Uncategorised	Alert	Short walk/swim	Short flight	Major flight	
Alverbank East	44	42	-	-	-	-	2	5
Salterns Quay	247	205	-	16	15	4	7	17
Salterns Park	340	256	5	9	14	11	45	25

5.3.14 Inter-species variation in the response rate to disturbance events is illustrated in Figure 5.2. Generally speaking, the most popular types of recreational activity (dog walking (with dog on-lead), walking, cycling and jogging) showed very high levels of ‘no response’ in birds. It is the less frequent and more unusual activities such as rowing a boat, horse riding, surfing and kite playing which generated a greater degree of response. This is illustrated in Figure 5.3 . Solent-

wide, while dog walkers with dogs off the lead account for only 2% of the total number of observations, this led to 27% of the occurrences of a 'major' response (birds taking flight and flying for 50m or more). If dogs on the foreshore are also included then a total of 47% of major flights are caused by dogs off their leads.



**Figure 5.2: Response to disturbance events by species. All species for which there were data from at least 50 events are included (Source: Liley et al, 2010)**

5.3.15 The household survey (Fearnley et al, 2011) includes estimates of current visitor numbers and modes of transport to sections of Solent coastline most relevant to Gosport. These include sections 35 (Lee on the Solent) to 43 (Fleetlands). The results are summarised in Table 5.2. As can be seen, the stretches between Hill Head and Lee-on-the-Solent, Lee-on-the-Solent and the car park near Angling Club, and Browndown Point to Gilkicker Point, are by far the most popular of those within or close to Gosport borough, receiving an estimated 2.28million, 1.85million and 1.76million visitors annually, respectively. At all locations, the majority of people drive to reach their destination (68%, 60% and 56% respectively). But other coastal sections around Gosport are also popular visiting destinations.

5.3.16 Fearnley et al (2011) conclude that an estimated 52 million visits are made to the Solent coastline each year by households living within a 30km radius of the coastline between Hurst Castle and Chichester Harbour, including the north shore of the Isle of Wight. By incorporating planning data from Local Authorities in the area, they go on to estimate that this number will rise by 8 million visits per year to 60 million annual visits once all planned new residential development is occupied, an increase of 15%.

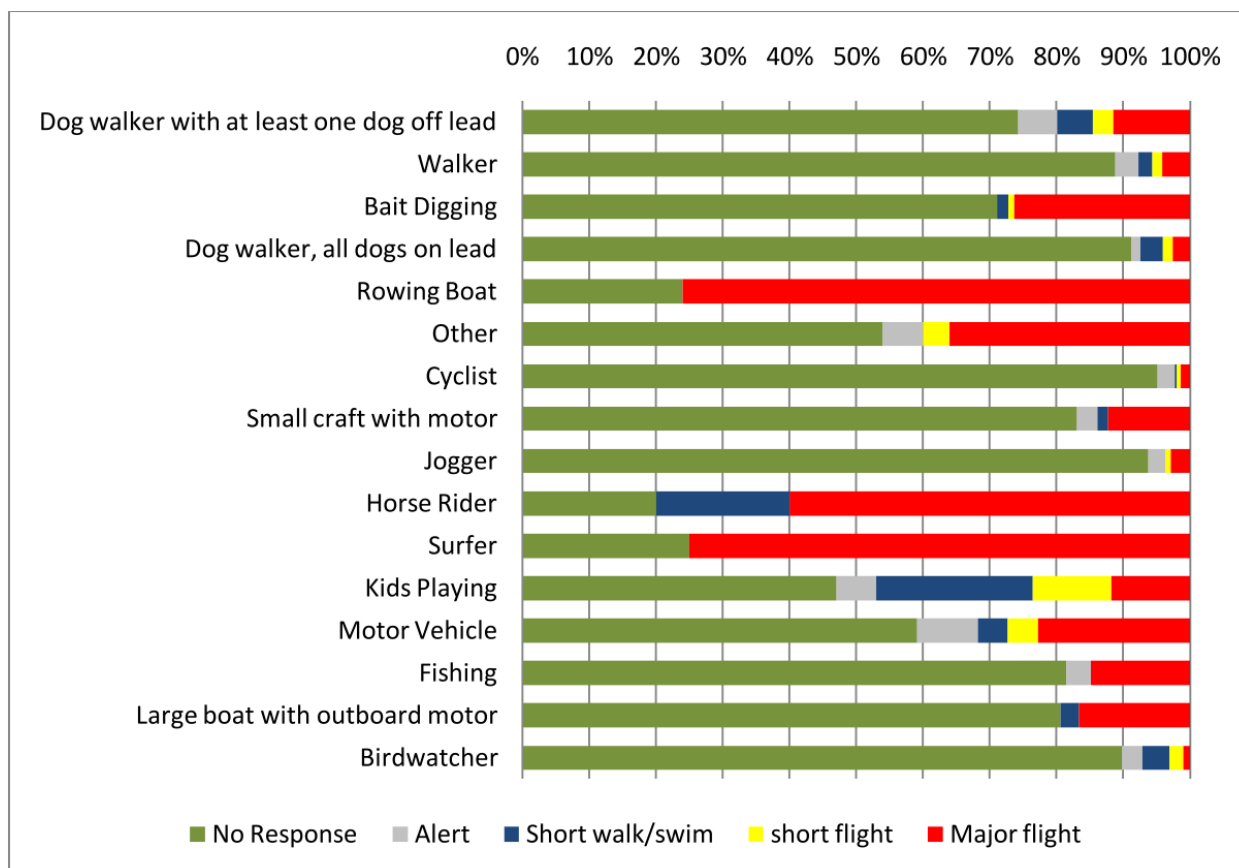


Figure 5.3: Responses of birds (grouped across all sites and all species) according to activity (Source: Liley et al, 2010)

Table 5.2: Predicted Total Annual visits to each section from all households on foot (up to 10km), by car (up to 30km) and in total (including those using other forms of transport) (Source: Fearnley et al, 2011)

Section	Foot (n/%)	Car (n/%)	Total (n)
Hill Head to Lee-on-the-Solent	536,193 / 24	1,548,866 / 68	2,278,969
Lee-on-the-Solent to car park near Angling Club	578,752 / 31	1,114,794 / 60	1,851,047
Car park near Angling Club to Browdown Point	84,338 / 21	289,005 / 71	408,064
Browdown Point to Gilkicker Point	624,937 / 36	984,301 / 56	1,758,898
Gilkicker Point to south coastal side of Gosport	445,578 / 57	267,842 / 34	779,768
Alverstoke-Newtown to Old Portsmouth area *	539,432 / 56	334,554 / 35	955,268
Forton Lake - Priddy's Hard – Gunwharf Quays *	438,834 / 65	182,280 / 27	678,878
North of Priddy's Hard to Hardway-Naval Base *	15,237 / 6	200,778 / 85	236,104
Hardway-Naval Base to Fort Elson	21,873 / 60	11,594 / 32	36,579
Fort Elson to Fleetlands	0 / 0	1,434 / 91	1,568

\* Please note that these sections are cross-harbour and include sections of coast in both Gosport Borough and Portsmouth City. Gosport Borough Council advises that it is likely that visitor numbers will be higher on the Portsmouth side of the Harbour given the major attractions of the Historic Dockyard, Gunwharf Quays and Old Portsmouth.

### ***Predicting the impact of human disturbance on overwintering birds***

- 5.3.17 The final phase two report (Stillman *et al*, 2012) combines the data and modelling exercises from the earlier research activities to predict impacts on bird survival over the winter within different parts of the Solent. Bird survey fieldwork gave an indication of how birds respond to disturbance (e.g. taking flight, stopping feeding or avoiding disturbed areas) and the distance over which these responses were elicited from different types of human activity. Models of Southampton Water and Chichester Harbour were prepared, within which the relationship between a number of factors was examined: intertidal invertebrate food supply, the exposure and re-covering of this food during the tidal cycle, disturbance from human activities, and the energy requirements and behaviour of birds as they avoid human activity and search for food.
- 5.3.18 The model incorporated the costs that birds incur when avoiding human activities (e.g. increased bird density in non-disturbed areas, reduce time for feeding and increased energy demands when flying way) as well as their abilities to compensate for these costs (e.g. by feeding for longer or avoiding more disturbed areas). The scope of the model included Dunlin, Ringed Plover, Redshank, Grey Plover, Black-tailed Godwit, Oystercatcher and Curlew, while a separate exercise addressed Dark-bellied Brent Goose; other overwintering species on the SPA/Ramsar citations were not examined, including Teal, Pintail, Shoveler, Wigeon, Turnstone, Sanderling, Red-breasted Merganser and Shelduck.
- 5.3.19 As the report says, in the absence of disturbance all wader species modelled in the Southampton Water model were predicted to have 100% survival through the winter. Disturbance resulting from current levels of housing was predicted to reduce the survival of Dunlin, Ringer Plover, Oystercatcher and Curlew to approximately 88%, 89%, 95% and 94% respectively. Anticipated future levels of housing were predicted to further reduce survival rates in Dunlin and Ringed Plover to 85% and 84% respectively. These results are explained as follows:

*“Dunlin, Ringed Plover, Oystercatcher and Curlew were predicted to be the species most vulnerable to disturbance due to their combination of disturbance distances, night-time feeding efficiency and vulnerability to food competition at high competitor densities. Redshank, Grey Plover and Black-tailed Godwit typically had the shortest disturbance distances and were able to feeding relatively efficiently at night. This meant that they were less affected by visitors than species with longer disturbance distances, and were better able to compensate at night for lost feeding time and increased energy expenditure during the day. In addition, Black-tailed Godwit were able to feed terrestrially to supplement intertidal feeding.*

*“The remaining species had longer disturbance distances and so were more affected by disturbance from visitors. Ringed Plover had the lowest night-time efficiency and so was the species least able to compensate for disturbance by feeding at night. Although Oystercatcher and Curlew could feed terrestrially, these species had the longest disturbance distances. Furthermore, Oystercatcher consume larger prey items than the other wading bird species, which take longer to consume, which means there is more fighting over prey (interference competition) in this species than in others.” (Stillman *et al*, 2012, p.32)*

- 5.3.20 Results from the Chichester Harbour model were inconclusive due to difficulties with the food availability data. Test runs of the model showed that a greater proportion of birds were predicted to die by the end of winter in an undisturbed scenario than is typically observed. Adjustments to parameters could not satisfactorily resolve the situation and further predictions were not made.
- 5.3.21 Additional scenarios were run inside the Southampton Water model to explore hypothetical situations regarding the available area of intertidal habitats (e.g. to account for sea level rise), variations in the energy requirements of the birds (such as might be the case during cold winters or particularly high energy expenditure while avoiding disturbance). The survival rates of Dunlin, Ringed Plover, Oystercatcher and Curlew were predicted to decrease when intertidal habitat area was reduced or energy requirements were increased. Conversely, if intertidal activities were moved to the shore, so reducing the area of intertidal that was subject to disturbance, wader survival rates increased.
- 5.3.22 The results for Southampton Water were assessed for suitability in scaling up to predictions of survival rates elsewhere in the Solent. The study determined that wader survival was predicted to decrease in Southampton Water when daily visitor rates to coastal sections were greater than 30 per hectare of intertidal habitat. Future visitor densities at other sections of Solent coastline were calculated and compared to this critical density of 30 daily visits per hectare of intertidal habitat. There are several other sections of the Solent coastline where this threshold is predicted to be breached under the future housing scenario, and therefore where bird survival may be being reduced as a result of disturbance, including several where visitor densities are predicted to be several hundred daily visitors per hectare of intertidal habitat (visits/day/ha). Sections close to Gosport that are predicted to breach 30 visits/day/ha are:
- ▶ Hill Head to Lee-on-the-Solent: 114.5 visits/day/ha;
  - ▶ Lee-on-the-Solent to car park near Angling Club: 161.9 visits/day/ha;
  - ▶ Car park near Angling Club to Browndown Point: 132.4 visits/day/ha;
  - ▶ Browndown Point to Gilkicker Point: 654.6 visits/day/ha;
  - ▶ Gilkicker Point to south coastal side of Gosport: 86.3 visits/day/ha; and
  - ▶ Forton Lake - Priddy's Hard – Gunwharf Quays: 298.9 visits/day/ha<sup>4</sup>.
- 5.3.23 However, only two of these are within an SPA/Ramsar (Hill Head to Lee-on-the-Solent is in Solent and Southampton Water SPA/Ramsar; Forton Lake - Priddy's Hard – Gunwharf Quays is adjacent to Portsmouth Harbour SPA/Ramsar). It is interesting to note that, as part of the development of Priddy's Hard, an important mitigation measure was the construction of screening walls which served the dual purpose of making it more difficult to access the foreshore while preventing dogs from being visible to birds on the intertidal.

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<sup>4</sup> Please note that this section includes sections of coast in both Gosport Borough and Portsmouth City. Gosport Borough Council advises the following: It is likely that visitor numbers will be higher on the Portsmouth side of the Harbour given the major attraction of Gunwharf Quays. However it is likely that the section of coast within Gosport Borough would also exceed 30 visits/day/ha although would not be as high as 298.9 visits/day/ha.

- 5.3.24 In conclusion, the model provides some evidence for the hypothesis that survival rates among some species of waders are being negatively influenced by disturbance, particularly when visitor densities are greater than 30 visitors per hectare of intertidal per day, and that visitor numbers are expected to increase (and survival rates to further decrease) as a result of future housing development.

#### ***Dark-bellied Brent Goose***

- 5.3.25 There were insufficient data to build predictive models of the impact of disturbance on the survival of Brent Goose because the available biomass of intertidal and terrestrial food sources was not known. However, some conclusions were drawn from similar studies elsewhere, and explored for their applicability in the Solent. Firstly, the response distance of Brent Goose to sources of disturbance is comparable with waders; the median distance within which there was no response to a potential disturbance event was 97m. In general, disturbance has not been shown to negatively affect Brent Goose survival so long as there is sufficient time and food availability to compensate for disturbance. Intertidal beds of eelgrasses, and terrestrial pasture, arable, grassland and saltmarsh habitats are all important food sources.
- 5.3.26 Terrestrial sites favoured by Brent Goose tend to be large, flat, open and low-lying, and close to the coast. The number of buildings surrounding a site is a less significant factor for Brent Goose than for waders. Conversely, important Brent Goose sites tend to be closer to one another whereas important wader sites tend to be more isolated from each other (King, 2010). The best sites are likely to be those where a high proportion of the site is greater than the response distance away from sources of disturbance such as visitor access routes. Loss of terrestrial habitat typically has the highest predicted effect on Brent Goose survival. Such habitat may become even more important for the birds in future when sea level rise is predicted to lead to the loss of areas of saltmarsh (Stillman *et al*, 2012).

#### ***Mitigating the impacts of strategically planned development***

- 5.3.27 The Phase 3 report (Liley & Tyldesley, 2013) considers the available options for avoiding and mitigating impacts to the overwintering bird assemblage of the Solent European sites, in the context of current planning policy and regulation. It outlines a strategy of projects including 'quick wins' and longer term behavioural change initiatives for reducing the overall adverse effect such that planned new developments can be accommodated. It concludes that the strategy, once implemented, would be sufficient to address the impacts of a multitude of smaller scale residential proposals, but that larger scale schemes and those very close to the designated coast will still require individual project-level HRA and site-specific mitigation. The main aspects of the strategy include:
- ▶ A delivery officer to coordinate implementation of the strategy;
  - ▶ A team of wardens or rangers to provide on-site presence and talk to visitors;
  - ▶ A coastal dog project to provide information and promote suitable sites for dog walking;
  - ▶ A review of parking and access points to provide a baseline from which future changes (additional/reduced parking in certain locations) can be planned and monitored;
  - ▶ A review of watersports zones and access;

- ▶ Codes of Conduct packs relating to the above;
- ▶ A series of site-specific projects such as path re-routing, path creation, dedicated areas for dogs or watersports, enhanced facilities for watersports, changes to car parking and so on;
- ▶ Watersports permits and enforcement; and
- ▶ SANGs, green infrastructure projects and alternative roost sites.

5.3.28 The site-specific projects which are discussed for coastal sections close to the Gosport are presented below, but the report points out that these should be informed by monitoring of the success of, and feedback from the initiatives above:

- ▶ 34 Hill Head to Lee-on-the-Solent: Educate kite surfers and windsurfers; Make sure jet skiers stay within buoy area; Educate walkers and dog walkers and consider dog management measures (the beach at Hill Head already has dog restrictions in the summer months); Potential for the proposed Alver Valley Country Park to deflect pressure from dog walkers;
- ▶ 35 Lee-on-the-Solent to car park near Angling Club: Educate walkers and dog walkers; Links with Alver Valley Country Park (via HCC owned site Browndown Coastal Area) has potential to create a coast and countryside attraction away from an SPA stretch of coastline;
- ▶ 36 Car park near Angling Club to Browndown Point: MOD owned so less access - wildlife trust and MOD managing together;
- ▶ 37 Browndown Point to Gilkicker Point: Stokes Bay may have scope to deflect recreational pressure from more sensitive parts of the coast particularly when linked with the proposed Alver Valley Country Park;
- ▶ 38 Gilkicker Point to south coastal side of Gosport: Potential to create a new promenade on this non-SPA stretch which has the potential to attract residents of new development in the locality – the section has splendid views across the Solent and over to Portsmouth but is currently under-utilised for a variety of reasons; and
- ▶ 39 Forton Lake - Priddy's Hard – Gunwharf Quays: Restore Haslar Lake / Cockle Pond - poor water quality; Educate boat people - lots of boat activity; There could also be education/engagement of local residents which is a densely populated area; There can be problems of litter and dumping in this area but there is scope for a good education project here as there is a school adjacent to the SPA; The Brent Geese seem used to human presence in this area and there may be scope to create a walkway so the local population can have a more pleasant environment to enjoy the creeks with appropriate screening walls (Haslar, Workhouse and Stoke Lakes).

5.3.29 The report recommended that avoidance and mitigation measures should be sought in respect of residential development occurring within 5.6km of the designated coastline, a distance from within which 75% of visitors originated during the surveys. In its response to the Phase III report,

Natural England discusses<sup>5</sup> a three-stage approach to defining a full package of avoidance and mitigation measures for disturbance impacts, and concludes that funding contributions from new residential development proposals will be required from the outset while interim and long-term funding arrangements are being finalised. It also advises that Local Plans should require that mechanisms are put in place to secure mitigation in conjunction with planned new residential development. Assuming that is the case, it concludes that disturbance impacts on the Solent European sites' overwintering bird interest should not be a reason for refusing planning permission.

- 5.3.30 Work is currently underway by a sub-group of the SDMP project group to prepare an interim mitigation framework, based on 'quick win' mitigation measures, to be agreed by all the relevant authorities. This would include a per-dwelling financial contribution towards mitigation measures.

## **5.4 Avoidance and Mitigation Integral to Plan**

- 5.4.1 Policy LP42 provides specific protection for European sites, stating that:

*"Planning permission will not be granted for development which will affect the integrity of internationally important sites. Such sites will be subject to the highest level of protection as set out in the relevant international and national regulations.*

*"All new residential development will be required to avoid or mitigate likely significant 'alone' and 'in-combination' effects on internationally important habitats caused by recreational disturbance ..."*

- 5.4.2 The explanatory text for this part of the policy expands on these requirements, stating that:

*"...the Borough Council is minded that development in Gosport Borough in-combination with other developments in the sub-region may in certain circumstances have an effect on other international designations, for example the Solent and Southampton Water SPA which is adjacent the Borough boundary at Hill Head within Fareham Borough. It will also be necessary to protect the integrity of these designations including the consideration of the effects of development on important sites outside the SPA and Ramsar site which support important populations of bird species such as Brent geese which may use a site for purposes such as feeding and roosting.*

*"In relation to internationally important sites the Government's Conservation of Habitats and Species Regulations 2010, which transpose the European Union Habitats Directive into national law, are relevant. These are often referred to as the Habitats Regulations. It is now a requirement for each local planning authority to conduct a Habitats Regulation Assessment (HRA) of relevant DPDs. Policies and proposals in the Gosport Local Plan in combination with other plans and programmes within the Borough and the sub-region (and beyond) will not be acceptable where there is the potential for an adverse impact on*

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<sup>5</sup> Letter to PUSH Planning Officers Group and Solent Forum from Simon Thompson, Land Use Operations Team, Natural England (31 May 2013).



*the features of an internationally important site. An HRA Report accompanies the Local Plan and its recommendations have been taken into account throughout the Plan including issues relating to recreational disturbance, traffic-related air pollution and coastal defences.*

*“Developers should refer to the Habitats Regulations in instances where a proposal may impact upon the integrity of such sites. Policy LP42 reinforces the significance of this issue and consequently developers will need to consider these matters at the earliest possible stage when preparing their proposals and provide sufficient information for the Local Planning Authority to undertake the appropriate assessment. A number of issues should be considered as part of development proposals including those highlighted in the Local Plan’s Habitats Regulations Assessment.*

*“Any proposal which may have a significant effect upon a European site or a species protected by European legislation, either alone or in combination with other current proposals and projects, will need to be subject to an ‘appropriate assessment’ and is likely to require an Environmental Impact Assessment. The information provided by the developer will enable the Local Planning Authority, with guidance from Natural England, to ascertain whether the proposal will have an adverse impact on the nature conservation value of a site.*

*“In order to understand the issue of recreational disturbance and its potential impact on internationally important habitats detailed research has been undertaken as part of the Solent Disturbance and Mitigation Project (SDMP). This work has been coordinated by the Solent Forum and has involved a number of organisations including Natural England, Environment Agency, all the local authorities around the Solent, relevant harbour groups and the RSPB. The work has concluded that existing and new residential development is likely to have an adverse impact on protected bird species that use the European sites as a result of recreational disturbance generated by local residents.*

*“Natural England have made it clear that SDMP work represents the best available evidence and therefore avoidance and mitigation measures are required in order to ensure a significant effect, arising from new housing development around the Solent, is avoided. It acknowledges that partnership work is underway and expects that all residential development contributes towards the avoidance and mitigation measures. The nature and level of the mitigation will depend on the scale and location of the residential development and whether there are any specific impacts related to the development or whether the impacts are primarily as a result of being in-combination with other development around the Solent.*

*“Consequently it will be a requirement of new residential development to contribute towards the measures identified by the Project and others that may be considered appropriate. A broad level Mitigation Strategy has been produced as part of the SDMP and work is being undertaken to implement a package of interim measures which will form part of a longer term action plan. This could include the implementation of on-site measures as part of the development proposal and/or financial contributions to local and/or sub-regional projects. The package of measures could include coastal rangers,*

*education initiatives particularly focussed at dog walkers, as well as various potential access management projects and suitable alternative natural greenspaces (SANGs) to deflect pressure from sensitive parts of the coast. The work is on-going and the latest information can be found on the relevant website. The Borough Council will produce a procedure note once an agreed approach has been adopted."*

- 5.4.3 LP3 includes the following provision in response to recommendations made during earlier iterations of the HRA:

*"Development likely to have an individual or cumulative adverse impact on internationally important habitats will not be permitted unless the necessary avoidance and mitigation measures have been secured..."*

- 5.4.4 The explanatory text for this part of the policy expands on this requirement, stating that:

*"The Council recognises that additional growth in the Borough, in-combination with growth in neighbouring authorities, could, without appropriate management and mitigation, lead to adverse effects upon European sites and other sites that support their integrity.*

*"In order to prevent such effects, the Council will continue to work with other local authorities (including through PUSH) and relevant organisations to develop and implement a strategic approach to protecting European sites from recreational pressure and other impacts of development. This will include a suite of mitigation measures, including adequate provision of alternative recreational space and support via developer contributions for access management measures within and around the European sites in the Solent and the New Forest.*

*"New residential development will be required to contribute towards relevant mitigation measures relating to recreation disturbance as identified by the Solent Disturbance and Mitigation Project. Natural England has confirmed that without the appropriate necessary measures development should not be permitted. Further details are set out as part of Policy LP42.*

*"The Council with its partners will, through on-going monitoring<sup>6</sup>, scrutinise the effectiveness of the sub-regional approach to avoidance and mitigation of effects on European sites. It will adjust the rate, scale and distribution of development across the Borough to respond to the findings of new evidence where appropriate, in order to preserve the integrity of the European sites."*

- 5.4.5 Additionally, policy LP41 (green infrastructure) makes provision for new and/or enhanced recreational facilities to be developed, to help avoid increasing pressure for recreation at European sites. Its supporting text explains that:

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<sup>6</sup> This includes ecological evidence from Natural England, the Council's Annual Monitoring Report, work relating to the PUSH Green Infrastructure Strategy and the Solent Disturbance and Mitigation Study, on-going air quality management and visitor surveys.

*“In some cases, particularly for larger developments it may be necessary to contribute to the provision of off-site green infrastructure. The need for off-site provision will be informed by the latest evidence studies and/or advice from Natural England and the Environment Agency as part of the consultation of the planning proposal. Such provision may be necessary to mitigate the impact of the development. This includes:*

- ▶ *Flood alleviation measures (for example, land associated with a balancing pond);*
- ▶ *Avoidance and mitigation measures in relation to an identified effect on internationally/nationally important habitats; and*
- ▶ *Ameliorating the impacts of climate change.”*

5.4.6 The policy requirements quoted above, together with others contained elsewhere in the Local Plan, are considered sufficient to ensure that the disturbance effects caused by strategically planned developments are capable of being mitigated, both in the short-term and once a full delivery mechanism for the SDMP Mitigation Strategy has been agreed.

## **5.5 Impact Assessment**

5.5.1 Table 5.3 uses the SPA conservation objectives as a checklist to determine whether adverse effects on ecological integrity are likely to occur as a result of the plan (adapted from English Nature, 2004).

## **5.6 Conclusions**

5.6.1 It can be concluded that there will be no adverse effects as a result of strategic disturbance, and that the plan is Habitats Regulations compliant in this respect.

**Table 5.3: Assessment of effects on integrity, in view of the sites' conservation objectives**

Has the Appropriate Assessment shown that there will be no negative impact on...?	Y/N
<b>Portsmouth, Langstone and Chichester Harbours, and Solent and Southampton Water SPAs / Ramsars, and New Forest SPA</b>	
The extent and distribution of the habitats of the qualifying features	Yes
Residential developments will be required to financially contribute to and/or implement avoidance and mitigation measures defined as part of the SDMP Mitigation Strategy, and where necessary equivalent measures relating to the New Forest. Larger developments and those particularly close to designated areas will be considered on a case by case basis and be required to prepare their own Habitats Regulations Assessments. Together these measures will ensure that the extent and distribution of the habitats of the qualifying features is maintained.	
The structure and function of the habitats of the qualifying features	Yes
Residential developments will be required to financially contribute to and/or implement avoidance and mitigation measures defined as part of the SDMP Mitigation Strategy, and where necessary equivalent measures relating to the New Forest. Larger developments and those particularly close to designated areas will be considered on a case by case basis and be required to prepare their own Habitats Regulations Assessments. Together these measures will ensure that the structure and function of the habitats of the qualifying features is maintained.	
The supporting processes on which the habitats of the qualifying features rely	Yes
Residential developments will be required to financially contribute to and/or implement avoidance and mitigation measures defined as part of the SDMP Mitigation Strategy, and where necessary equivalent measures relating to the New Forest. Larger developments and those particularly close to designated areas will be considered on a case by case basis and be required to prepare their own Habitats Regulations Assessments. Together these measures will ensure that the supporting processes on which the habitats of the qualifying features rely are maintained.	
The populations of the qualifying features	Yes
Residential developments will be required to financially contribute to and/or implement avoidance and mitigation measures defined as part of the SDMP Mitigation Strategy, and where necessary equivalent measures relating to the New Forest. Larger developments and those particularly close to designated areas will be considered on a case by case basis and be required to prepare their own Habitats Regulations Assessments. Together these measures will ensure that the populations of the qualifying features are maintained.	
The distribution of the qualifying features within the site	Yes
Residential developments will be required to financially contribute to and/or implement avoidance and mitigation measures defined as part of the SDMP Mitigation Strategy, and where necessary equivalent measures relating to the New Forest. Larger developments and those particularly close to designated areas will be considered on a case by case basis and be required to prepare their own Habitats Regulations Assessments. Together these measures will ensure that the distribution of the qualifying features within the site is maintained.	

## 6 Disturbance: Site-specific Impacts

### 6.1 Baseline

6.1.1 This section draws on much of the same information discussed in Chapter 5, but in a site-specific rather than strategic context. In other words, it looks at the specific nature of impacts from development, especially residential development, on sites close to areas of SPA/Ramsar within Gosport, and sites of importance or potential importance to Brent Goose and waders. In addition to the disturbance impacts to these species discussed in the previous chapter, a number of other factors are considered here:

- ▶ Increased human activity (including noise), leading to an increase in perceived predation risk;
- ▶ Shortened view lines, leading to an increase in perceived predation risk;
- ▶ Overshadowing or over-illumination, leading to an increase in perceived predation risk;
- ▶ Overshadowing or over-illumination, leading to reduced prey or food availability;
- ▶ Actual loss of roosting or foraging habitat due to construction and/or demolition; and
- ▶ Collision mortality risk from tall buildings or other new structures in areas close to designated or supporting habitats.

6.1.2 The role of tall buildings and other structures, their design and location is an important factor in the degree of disorientation and collision risk presented to birds. There may also be localised impacts from street, security, amenity and decorative lighting that will need to be carefully designed in order to avoid impacts. Light pollution and tall buildings can displace birds where they are in close proximity to foraging and roosting areas, by over illumination, human activity, decreasing sight lines and overshadowing (which can also limit the growth of intertidal flora), although birds can habituate to such non-threatening forms of disturbance and displacement.

6.1.3 These are assessed separately to disturbance from recreational pressure (Chapter 5) because the way in which they affect European sites' qualifying features is dependent on the location and nature of proposed development and the way in which each individual site is used by a species or group of species, whereas the assessment of disturbance from recreational pressure seeks to address a strategic issue that operates across the sub-region and would result from almost any form of residential development.

6.1.4 Annex I and migratory birds for which Chichester, Langstone and Portsmouth Harbours, and Solent and Southampton Water have been designated as SPA/Ramsar are susceptible to impacts, both within and outside of designated areas, on the water, on the intertidal, along the shoreline and inland, while roosting or foraging, and while commuting between roosting and foraging habitats. Displacement impacts may arise from activity or a change to their environment which is perceived as increasing the risk of predation, or which otherwise renders an area no longer useful for roosting or foraging.

### **Increased human activity**

- 6.1.5 Redevelopment of sites adjacent to waterfront will, during both construction and operation, lead to increasing levels of human activity. The mechanisms of impact are very similar to those associated with disturbance from recreational pressure, particularly the balance of time spent foraging/roosting or avoiding increased perceived predation risk, and the energy costs associated with the latter. Only certain sections of waterfront in Gosport are designated as SPA/Ramsar and therefore at risk of impacts of this nature.
- 6.1.6 Very loud (defined as greater than 70dB) and percussive noises have the potential to disturb birds, increasing time spent alert and in flight, reducing the time available to feed. Peak levels of sound are most likely to occur from the impact of pneumatic drilling and concrete breaking during site preparation and piling during construction. These activities can have an impact on bird species at a distance of up to 300m. This figure has been used as a worst-case scenario and is based on published research and studies by the Environment Agency for the Humber Estuary Tidal Defences scheme, the Environmental Statement for which states that: "*Sudden noise in the region of 80dB appears to elicit a flight response in waders to 250m from the source, with levels below this to approximately 70dB causing flight or anxiety behaviour in some species.*" (Environmental Statement for the Humber Estuary Tidal Defences: Urgent works, Paull to Kilnsea and Whitton to Pyewipe, cited in Biodiversity by Design, 2008, p.79).
- 6.1.7 Several areas are identified as being "Important" or of "Uncertain" importance as foraging sites for Brent Goose or wader roosts, and it is the localised impact of increasing recreational activity as a result of new housing or open space enhancements that is of principal concern. Stillman et al (2012; Table 6.1, p.61) identify median distances for Brent Goose and some waders within which the birds commonly respond to human activity, thereby causing disturbance. This response distance, which is around 80-100m for most species analysed, could help to inform management of open spaces by ensuring that substantial areas of suitable habitat are greater than the response distance from principal sources of activity, such as access points and routes.

### **Shortened view lines**

- 6.1.8 Several bird species can be displaced as a result of their specific line-of-sight requirements while foraging or roosting, whereby obstruction to view lines (necessary for early warning of perceived predation risk) will render areas of habitat unsuitable for use by birds. For example, terns and gulls prefer open nest sites and unrestricted views while roosting and feeding. Waders on the other hand, including Ringed Plover, Black-tailed and Bar-tailed Godwits, Redshank, Curlew, Turnstone, Dunlin and Sanderling, require views of greater than 200m when roosting or feeding. Brent Goose requires views of at least 500m (English Nature, 2001) in order to feel sufficiently free of predation risk to feed.

### **Overshadowing or over-illumination**

- 6.1.9 In a review of the ways in which light pollution can affect behavioural and population ecology, community ecology and ecosystem functions, Longcore and Rich (2004) draw a useful distinction between astronomical light pollution and ecological light pollution (ELP). ELP alters

the natural patterns of light and dark in ecosystems through direct glare, chronically increased illumination, and temporary, unexpected fluctuations in ambient light.

- 6.1.10 Sources of ecological light pollution include sky glow, lighted buildings and towers, streetlights, security lights and lights on vehicles, ships and boats. Its range therefore operates across significant spatial and temporal scales. Tall, lighted structures can present collision hazards while even shielded (low-level and /or directional) lights which reduce astronomical pollution can still cause localised ecological light pollution. Impacts are particularly likely for species sensitive to alterations in natural diel patterns of light and dark, or where critical behaviours are triggered by seasonal day length.
- 6.1.11 The changes in behaviour exhibited by individual animals in response to ambient illumination normally relate to orientation and disorientation. Reactions to luminance (brightness) are usually exhibited through attraction to, or repulsion from the source. Such behavioural responses can lead to changes in foraging, reproduction, migration and communication, while community ecology interactions are also influenced through competition and predation.
- 6.1.12 Many usually diurnal birds will continue to forage under artificial light and, while this could be seen as an advantage, also leads to prolonged exposure to predation risk. Birds can be disoriented or entrapped by night lights, where a bird within a lighted zone can become "trapped" and will not leave the lighted area. Large numbers of nocturnally migrating birds are therefore affected when meteorological conditions bring them close to lights, for instance, during inclement weather or late at night when they tend to fly lower. Within the sphere of lights, birds may collide with each other or a structure, become exhausted, or be taken by predators. Birds that are waylaid by buildings in urban areas at night can die in collisions with windows as they try to escape during the day. Artificial lighting has "*attracted birds to smokestacks, lighthouses (Squires and Hanson 1918), broadcast towers (Ogden 1996), boats (Dick and Donaldson 1978), greenhouses, oil platforms (Wiese et al. 2001), and other structures at night, resulting in direct mortality, and thus interfering with migration routes*" (Longcore and Rich, 2004, pp.193-4).
- 6.1.13 Also in birds, there is evidence to suggest that artificial night lighting affects the choice of nest site. De Molenaar et al (2000) investigated the effects of roadway lighting on Black-tailed Godwits in wet grassland habitats. Breeding densities of godwits were recorded over two years, comparing lighted and unlighted conditions near a roadway and near light poles installed in a wet grassland away from the road influence. When all other habitat factors were taken into account, the density of nests was slightly but statistically lower within and up to 300m away from the lighting at roadway and control sites. The researchers also noted that birds nesting earlier in the year chose sites farther away from the lighting, while those nesting later filled in sites closer to the lights.

#### **Overshadowing or over-illumination and food availability**

- 6.1.14 Ecosystem interactions may be affected by individual species responses to light pollution. For example, the magnitude of various zooplanktons' diel vertical migration patterns through the water column can be decreased by artificial light, leading to effects on both predators and prey (Longcore and Rich, 2004). Fewer zooplankton migrating to the surface to graze on algae

population can lead to increases in algal blooms (already a significant issue in the Solent; see Chapter 9) with consequent degradations in water quality. Meanwhile, fewer near-surface zooplanktons may reduce the food resource available to fish, birds and other predators.

- 6.1.15 Similarly, light pollution is commonly associated with decreasing availability of the aerial invertebrate prey of bats and birds (which may affect Dunlin in particular, although not the vegetarian Brent Goose). On the other hand, overshadowing from tall buildings or other structures can lead to a reduction in growth of marine plant species which are not typically overshadowed, possibly leading to changes in habitat composition as more shade tolerant species become dominant. This may have effects on food availability for some species, including Brent Goose, rendering an area of intertidal habitat less productive and suppressing its ability to support feeding birds. The severity of the impact would depend on the spatial and temporal scope of permanent shading over the course of each day.

#### **Actual loss of foraging or roosting habitat**

- 6.1.16 Space for development in Gosport is limited and there is the hypothetical potential for important supporting habitats to be lost not just in functional terms (i.e. through one of the impacts described above) but actually built over. However, the Local Plan recognises the need to focus development on brownfield sites and retain open space unless under exceptional circumstances which would include re-providing open spaces elsewhere. This is evident through the plan's spatial strategy and policy LP35. Nonetheless there may be impacts associated with development at some sites depending on the eventual design of proposals.

#### **Tall buildings and other structures**

- 6.1.17 Tall buildings and other structures can interfere with the normal commuting or migration routes of birds. The role of tall buildings and other structures, their design and location in relation to the various sites used by birds will be an important factor in the degree of disorientation and collision risk presented. The issue is not well understood in a local context because there is little research into common commuting routes, but is likely to be both highly spatially specific and weather dependant, and to be affected by the relative locations of bird roosts, foraging habitats and proposed new development.
- 6.1.18 Developments which propose tall buildings at the Waterfront or close to supporting habitats should be informed by detailed survey and an assessment of bird strike risk, to ensure their design is appropriate and can avoid negative effects. Design measures could include stepped building heights (lower close to the water), low intensity lighting, reduced ratio of glazing or UV glass/film. Where detailed assessment raises the possibility of residual risk, the following measures should be explored for incorporation into the development as appropriate:
- ▶ Reduce ratio of glass to opaque structure to a realistic minimum.
  - ▶ Increase the 'visual noise' of glazed areas. Methods to be considered for enhancing visual noise include: non-reflective fretting of glass; interior artwork; non-reflective one-way glass through use of external treatment; balconies and vegetated facades.
  - ▶ Avoid indoor planting where this can be clearly seen from outside without additional measures to obscure the view through the glass.



- ▶ Avoid 'see-through' areas in buildings, especially when aligned with features to which birds might be attracted to fly.
- ▶ Where possible use angled windows (40 degrees optimal).
- ▶ Avoid use of red building strobes where practical/safe to do so (red strobe lights have been shown to have a particular attractant value to migrant birds at night).
- ▶ Design lighting in accordance with anti sky-lighting pollution protocols.
- ▶ Install movement-responsive systems or manual maintenance protocols to turn off or dim all unnecessary exterior lighting, particularly in the spring and autumn migration seasons.
- ▶ Install bird screens, UV films, one-way films, exterior sun screens or interior blinds.

## 6.2 Impact Source

6.2.1 The screening exercise identifies spatial allocations which, through the scale, form, massing and/or height of development, could potentially lead to the impacts described above. Portsmouth Harbour SPA/Ramsar is the primary concern, but bird species of interest are also listed on the citations for Chichester and Langstone Harbours, and the Solent and Southampton Water SPAs/Ramsars, and so the assessment addresses all of these sites. Relevant policies include:

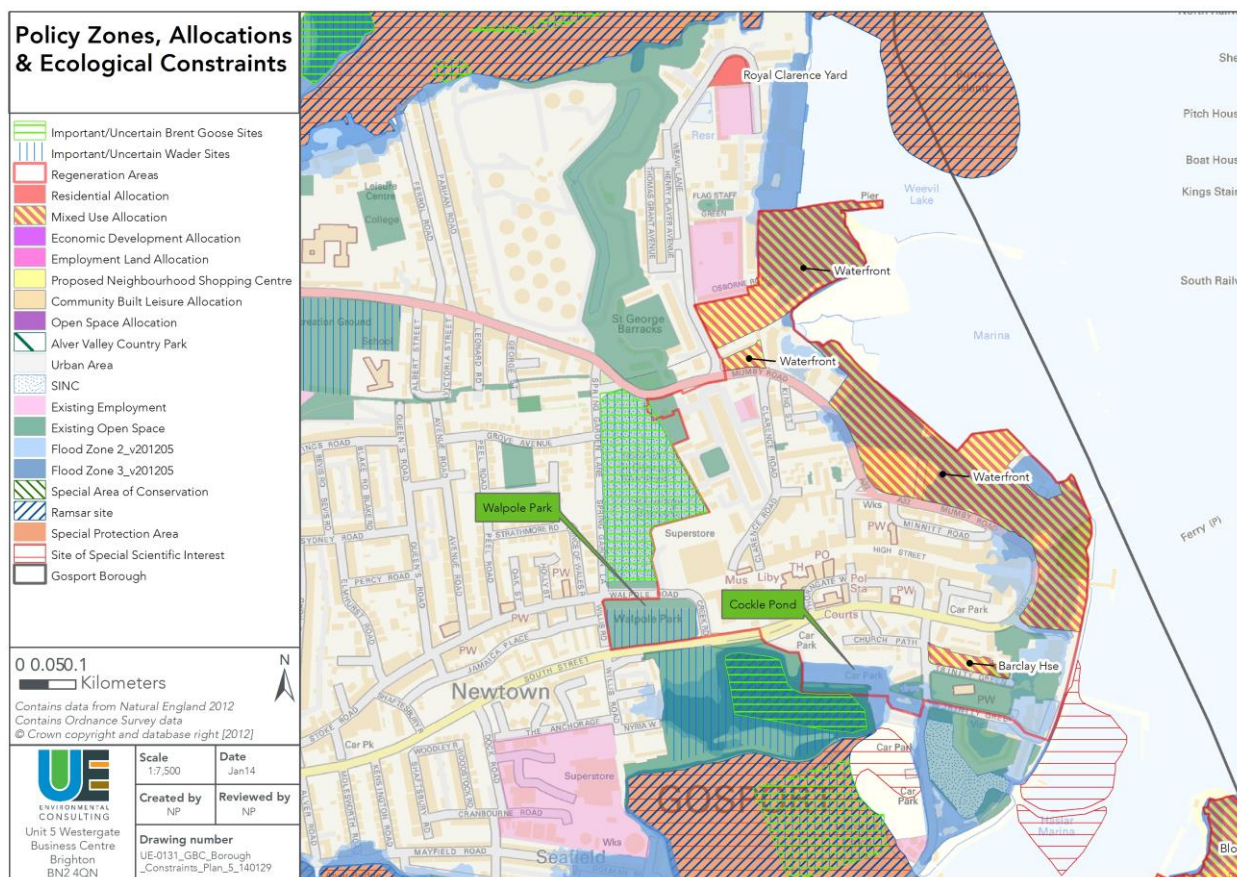
- |  |  |
|--|--|
| ▪ LP4 Gosport Waterfront & Town Centre | ▪ LP9A Other Allocations: Mixed Use                                  |
| ▪ LP5 Daedalus                         | ▪ LP9B Other Allocations: Economic Devt                              |
| ▪ LP6 Haslar Peninsular                | ▪ LP9C Other Allocations: Employment                                 |
| ▪ LP7 Rowner                           | ▪ LP9D Other Allocations: Residential                                |
| ▪ LP8 Alver Valley Country Park        | ▪ LP9E Other Allocations: Leisure,<br>Community Uses and Open Spaces |
| ▪ LP34: Provision of New Open Space    |  |

## 6.3 Impact Pathway: Site-Specific Disturbance Impacts Local to Development in Gosport

6.3.1 The very close proximity of some of Gosport's Regeneration Areas to Portsmouth Harbour and Solent and Southampton Water SPAs/Ramsars, and supporting sites falling outside of European site boundaries which are Important high-water wader roosts or Brent Goose foraging habitats (see King, 2010), requires further consideration of the way in which specific impacts may arise. This is explored in the following sections.

### **Gosport Waterfront and Town Centre**

6.3.2 The Gosport Waterfront and Town Centre Regeneration Area includes residential and mixed use developments at Barclay House in the Town Centre and a number of parcels of land at the Waterfront, as depicted by the red and yellow hatched areas shown on Figure 6.1. Portsmouth Harbour SPA/Ramsar is to the north within Forton Lake as well as looping round to the south to encompass Burrow Island; it is about 100m from the Regeneration Area at this point.



**Figure 6.1: Gosport Waterfront and Town Centre Regeneration Area**

6.3.3 The SPA/Ramsar can also be found to the south at Haslar Lake, adjacent to Cockle Pond in Walpole Park area of open space. Cockle Pond, the greenspace to its west, Walpole Park, and greenspace north of there continuing up through the Gosport Lines (part of the Green Network identified in the Local Plan) are all areas of Uncertain importance to Brent Goose, and include two areas of Uncertain importance to waders (King, 2010). Only the green space adjacent to Spring Garden Lane (St George’s Barracks Playing Field; G03), which is designated as a Site of Importance for Nature Conservation (SINC), is known to be regularly used (by Brent Goose) and therefore classified as Important to this species (early use favoured). Two more Important sites for Brent goose are within the SPA/Ramsar, one within Forton Lake (G51), the other within Haslar Lake (G45). Table 6.1 summarises the number of Important/Uncertain sites for Brent goose and waders within 500m of the Waterfront allocation (which consists of four separate land parcels).

**Table 6.1: Number of Important/Uncertain sites within 500m of Waterfront**

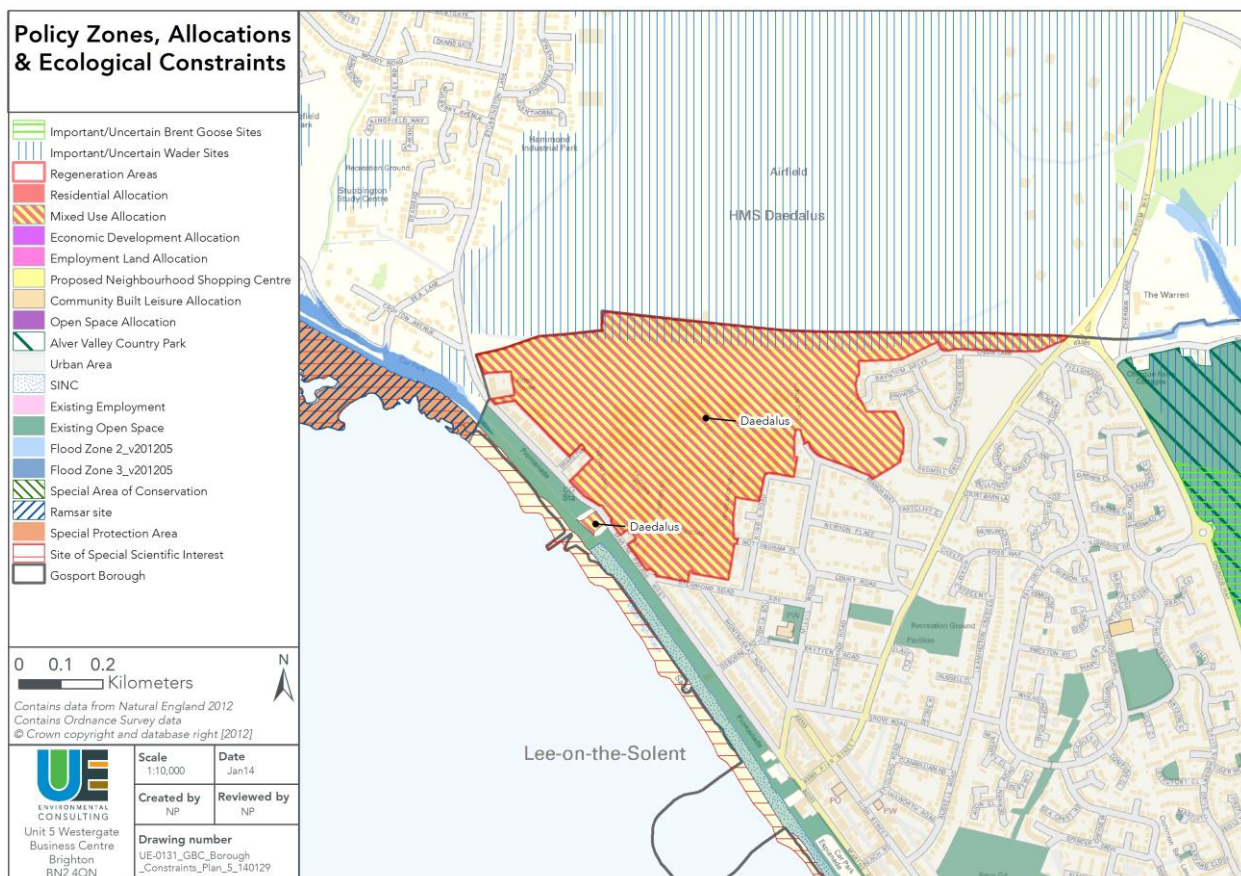
Site	Use	Wader Sites		Brent Goose Sites		
		Important	Uncertain	Important	Uncertain	NRU
Waterfront (3 sites)	Mixed	0	6	3	1	0
Barclay House	Mixed	0	5	2	1	0

\* NRU – No Recorded Use

6.3.4 Key considerations for the site include the scale of residential development to be included (up to 900 dwellings proposed), which will contribute to recreational disturbance impacts at the SPA/Ramsar and nearby supporting habitats, and disturbance/displacement in response to noise during construction. The scale, form, massing and height of new buildings will also need careful consideration to prevent effects through overshadowing, reduction of sight lines, over-illumination and collision mortality risk. Table 6.4 summarises the potential for impacts to occur as a result of the allocation, and lists possible mitigation that could be considered during the development of detailed designs for the site.

**Daedalus Regeneration Area**

6.3.5 Daedalus Regeneration Area, an employment-led scheme, is depicted on Figure 6.2. The site is part of the Solent Enterprise Zone, three quarters of which falls within Fareham borough. The mudflats at Hill Head immediately to the west form part of the Solent and Southampton Water SPA/Ramsar. The entire airfield to the north is classified as a site of Uncertain importance to waders (F13; King, 2010). Table 6.2 summarises the number of Important/Uncertain sites for Brent goose and waders within 500m of the Daedalus allocation (within Gosport).



**Figure 6.2: Daedalus Regeneration Area**

6.3.6 Key considerations for the site include the scale of residential development (up to 350 dwellings), which would contribute to disturbance impacts at the SPA/Ramsar and nearby supporting habitats. New residents are likely to visit the seafront for walking, dog-walking and other recreational activities. Westward access will require careful management to prevent

recreational impacts to birds using the intertidal at Hill Head. However, the entire section of coastline eastwards of the site is not designated as SPA/Ramsar, including Lee Clifflands and beach, and the Alver Valley, and could be promoted as a location within which additional recreational activity could be encouraged while also managing activity to avoid disturbance effects on Uncertain offsite Brent Goose and wader sites at Browndown, Stokes Bay and Alver Valley.

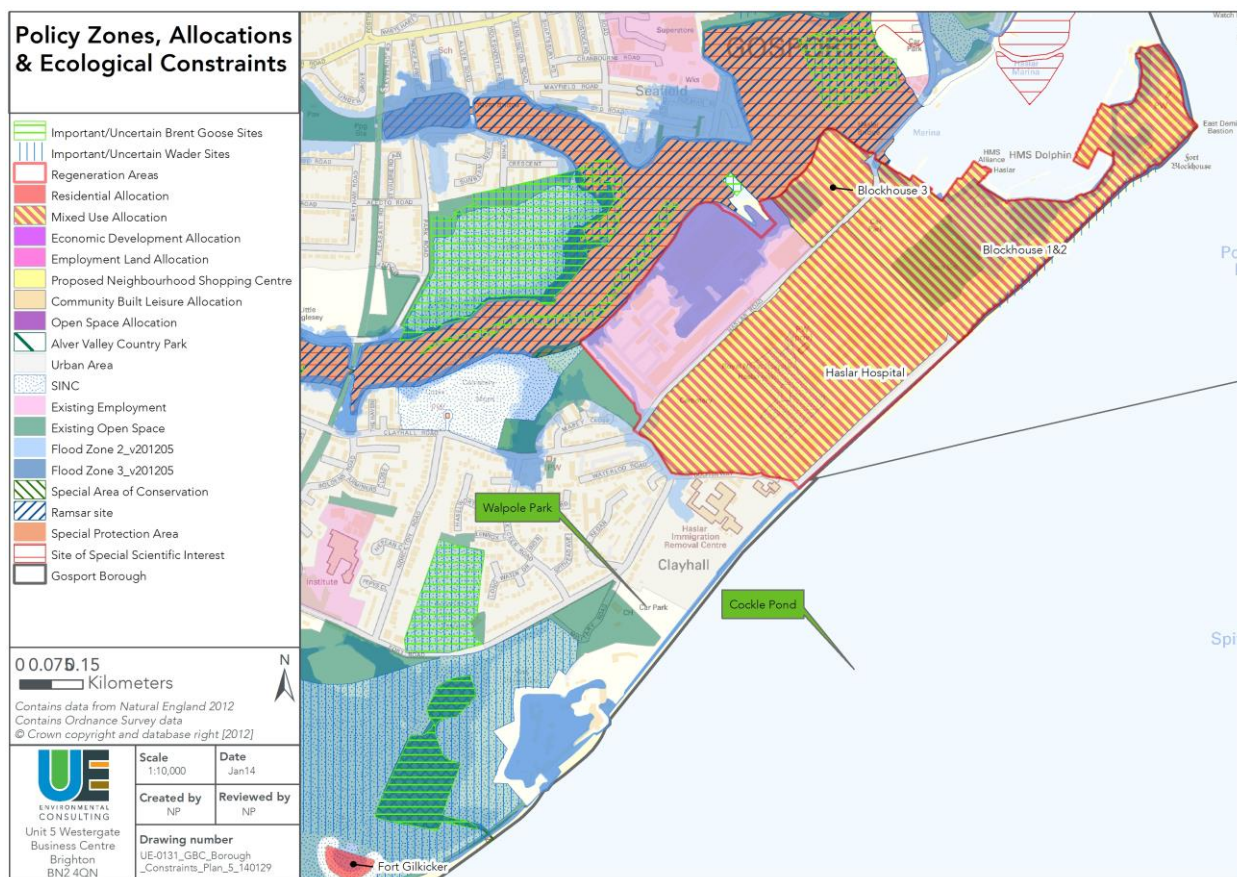
- 6.3.7 As stated in the Local Plan, the two Borough Councils and Natural England have agreed in principle the creation of a significant informal recreational area within the north east corner of the Daedalus site (within Fareham Borough) to provide a suitable accessible natural greenspace (SANG). It is intended that this area will deflect recreational pressure particularly from dog walking away from the sensitive sites at Hill Head by attracting at least the equivalent number of households created by the Daedalus development who would otherwise have visited the Hill Head site. In addition, planned recreational improvements within the Alver Valley as part of the Country Park will become increasingly attractive to a large number of dog walkers from the wider area, further helping to reduce impacts at sites with more sensitive intertidal habitats.
- 6.3.8 Table 6.5 summarises the potential for impacts to occur as a result of the allocation, and lists possible mitigation that could be considered during the development of detailed designs for the site.

**Table 6.2: Number of Important/Uncertain sites within 500m of Daedalus**

Site	Use	Wader Sites		Brent Goose Sites		
		Important	Uncertain	Important	Uncertain	NRU
Daedalus (within Gosport)	Mixed	0	6	0	1	0

**Haslar Peninsula Regeneration Area**

- 6.3.9 The Haslar Peninsula Regeneration Area, a health-led mixed use scheme made up of three separate land parcels, is depicted on Figure 6.3. Health and care uses are likely to be the focus of redevelopment, but may be supported by limited open market and affordable housing, together with employment development and public realm improvements. Portsmouth Harbour SPA/Ramsar is present within Haslar Lake to the north and west, immediately adjacent to Blockhouse 3 and Haslar Marine Technology Park.
- 6.3.10 There are a number of Uncertain Brent goose and wader sites at Gilkicker Point and Monkton Sports Ground (including G01, G23C, G31 and G50), while the southern seawall on the peninsula is a wader roost (P71) of Uncertain importance which currently has limited public access. An Important site for both Brent Goose and waders (G41) can be found approximately 80m west of Blockhouse 3, immediately adjacent to the SPA/Ramsar and below Mean High Water. Further Important and Uncertain Brent Goose sites, and Uncertain wader roosts, can be found within and adjacent to the SPA/Ramsar in Haslar, Workhouse and Stoke Lakes. Table 6.3 summarises the number of Important/Uncertain sites for Brent goose and waders within 500m of the Haslar allocation.



**Figure 6.3: Haslar Peninsula Regeneration Area**

**Table 6.3: Number of Important/Uncertain sites within 500m of Haslar**

Site	Use	Wader Sites		Brent Goose Sites		
		Important	Uncertain	Important	Uncertain	NRU
Haslar (3 sites)	Mixed	1	9	4	3	0

6.3.11 Key considerations for the site include the scale of residential development (up to 300 dwellings), which may contribute to recreational disturbance impacts at the SPA/Ramsar and nearby supporting habitats, and disturbance/displacement in response to noise during construction. The local area to Haslar is relatively well served by semi-natural greenspace, with Stokes Bay and Browndown to the south-west. However, recreational activity at the Haslar Lake waterfront will need to be carefully managed to prevent access onto the intertidal area, with sufficient screening to ensure dog-walkers and cyclists do not disturb birds within the SPA/Ramsar. Similarly, while access towards Stokes Bay could be promoted, it should not be to the detriment of Uncertain Brent goose and wader sites at Gilkicker Point or at Monkton Sports Ground.

6.3.12 The policy requires that sections of the Solent frontage are opened up to public access. While there are no SPA/Ramsar designations along this stretch, the southern seawall is a wader roost of Uncertain importance. Proposals to open up the route will require additional bird surveys and careful planning and design.

**Table 6.4: Impacts and mitigation: Waterfront**

Type / receptor	Likelihood of impact	Examples of mitigation
Human activity: SPA/Ramsar	Possible from waterfront activity within allocation but limited in extent, esp. to north of site	Close-board fencing / wall, screening of activity (dog-walking, cycling, etc), prevention of access to intertidal
Human activity: BG/wader site	Likely, esp. to Walpole Park	Improved management, interpretation, refuge zones*, screening of activity (dog-walking, cycling, etc)
Construction noise: SPA/Ramsar	Possible but limited in extent, mainly to north of allocation	Restricted timing of works (seasonal and/or tidal state), screening, sound barriers
Construction noise: BG/wader site	Unlikely due to distance, intervening structures	n/a
View lines; Overshadowing (displacement & food availability): SPA/Ramsar	Possible, depending on building heights, positioning	Buildings set back from waterfront, stepped building heights, gaps between buildings
View lines; Overshadowing (displacement & food availability): BG/wader site	Unlikely due to distance, intervening structures	n/a
Light pollution: SPA/Ramsar	Possible, depending on building heights, positioning	Use of low intensity, directional, low-level and movement-activated lighting
Light pollution: BG/wader site	Unlikely due to distance, intervening structures	n/a
Habitat loss: SPA/Ramsar	Unlikely – so long as footprint of any flood defence improvement is within allocation	See Chapter 7
Habitat loss: BG/wader site	Unlikely due to distance	n/a
Collision risk: SPA/Ramsar	Possible, depending on building heights, positioning	See para 6.1.18
Collision risk: BG/wader site	Unlikely due to distance, intervening structures	n/a

\* Design of new/enhanced open spaces could consider zoning so that a substantial space is greater than the typical response distance of Brent Goose and waders (about 90m; see Stillman et al, 2012) from points of access, routes and focal points for activity.

**Table 6.5: Impacts and mitigation: *Daedalus***

Type / receptor	Likelihood of impact	Examples of mitigation
Human activity: SPA/Ramsar	Likely, esp. to Hill Head	Site-specific SANG, contributions to SDMP
Human activity: BG/wader site	Likely, esp. to Uncertain sites in Alver Valley	Improved management, interpretation, refuge zones*, screening of activity (dog-walking, cycling, etc)
Construction noise: SPA/Ramsar	Possible but limited in extent, mainly to west of allocation	Restricted timing of works (seasonal and/or tidal state), screening, sound barriers
Construction noise: BG/wader site	Possible but limited to nearby / adjacent Uncertain wader sites	Restricted timing of works (seasonal and/or tidal state), screening, sound barriers
View lines; Overshadowing (displacement & food availability): SPA/Ramsar	Possible but limited in extent, mainly to west of allocation, and depending on building heights, positioning	Buildings set back from intertidal, stepped building heights, gaps between buildings
View lines; Overshadowing (displacement & food availability): BG/wader site	Possible but limited to nearby / adjacent Uncertain wader sites, and depending on building heights, positioning	Buildings set back from supporting habitats, stepped building heights, gaps between buildings
Light pollution: SPA/Ramsar	Possible, depending on building heights, positioning	Use of low intensity, directional, low-level and movement-activated lighting
Light pollution: BG/wader site	Possible, depending on building heights, positioning	Use of low intensity, directional, low-level and movement-activated lighting
Habitat loss: SPA/Ramsar	Unlikely due to distance	n/a
Habitat loss: BG/wader site	Possible – overlap with Uncertain wader site F13	Completion of 3 winters' bird surveys, safeguarding/re-provision of important habitats
Collision risk: SPA/Ramsar	Possible, depending on building heights, positioning	See para 6.1.18
Collision risk: BG/wader site	Possible, depending on building heights, positioning	See para 6.1.18

\* Design of new/enhanced open spaces could consider zoning so that a substantial space is greater than the typical response distance of Brent Goose and waders (about 90m; see Stillman et al, 2012) from points of access, routes and focal points for activity.

**Table 6.6: Impacts and mitigation: Haslar**

Type / receptor	Likelihood of impact	Examples of mitigation
Human activity: SPA/Ramsar	Likely from waterfront activity within allocation but limited in extent to Blockhouse 3	Close-board fencing / wall, screening of activity (dog-walking, cycling, etc), prevention of access to intertidal
Human activity: BG/wader site	Likely, esp. to G41, P71 and Uncertain sites at Gilkicker Point and Monkton Sports Ground	Improved management, interpretation, refuge zones*, screening of activity (dog-walking, cycling, etc)
Construction noise: SPA/Ramsar	Likely but limited in extent to Blockhouse 1-2-3 (incl. impacts to G41 and P71)	Restricted timing of works (seasonal and/or tidal state), screening, sound barriers
Construction noise: BG/wader site	Unlikely due to distance, intervening structures	n/a
View lines; Overshadowing (displacement & food availability): SPA/Ramsar	Possible, depending on building heights, positioning, but limited in extent to Blockhouse 1-2-3 (incl. impacts to G41 and P71)	Buildings set back from waterfront, stepped building heights, gaps between buildings, creation of planted buffer zones to Blockhouse 3 frontage
View lines; Overshadowing (displacement & food availability): BG/wader site	Unlikely due to distance, intervening structures	n/a
Light pollution: SPA/Ramsar	Possible, depending on building heights, positioning (incl. impacts to G41 and P71)	Use of low intensity, directional, low-level and movement-activated lighting
Light pollution: BG/wader site	Unlikely due to distance, intervening structures	n/a
Habitat loss: SPA/Ramsar	Unlikely – so long as footprint of any flood defence improvement is within allocation	See Chapter 7
Habitat loss: BG/wader site	Possible actual/functional loss of P71 only	Completion of 3 winters' bird surveys, safeguarding/re-provision of important habitats
Collision risk: SPA/Ramsar	Possible, depending on building heights, positioning, but limited in extent to Blockhouse 1-2-3 (incl. impacts to G41 and P71)	See para 6.1.18
Collision risk: BG/wader site	Unlikely due to distance, intervening structures	n/a

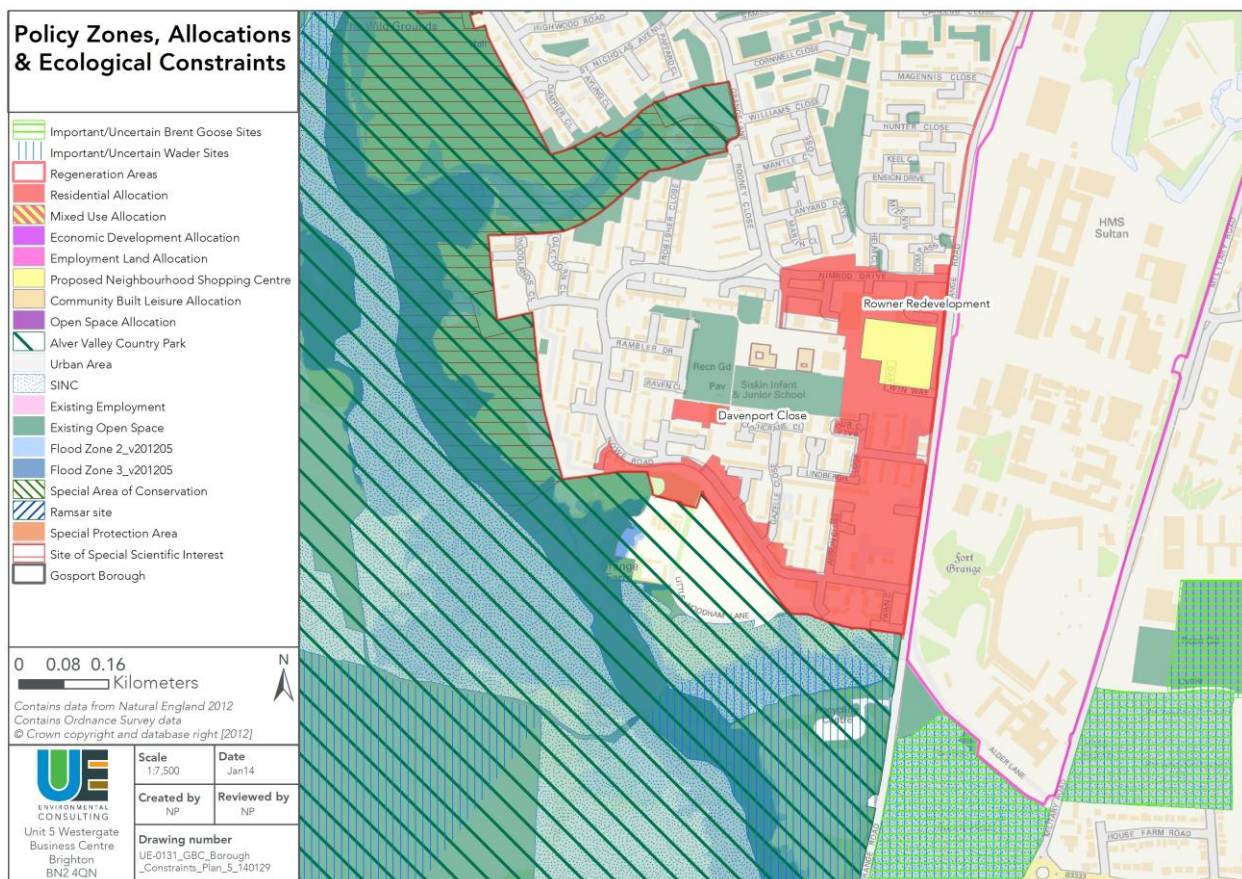
\* Design of new/enhanced open spaces could consider zoning so that a substantial space is greater than the typical response distance of Brent Goose and waders (about 90m; see Stillman *et al*, 2012) from points of access, routes and focal points for activity.



6.3.13 The scale, form, massing and height of new buildings will also need careful consideration to prevent effects through overshadowing, reduction of sight lines, over-illumination and collision mortality risk. Table 6.6 summarises the potential for impacts to occur as a result of the allocation, and lists possible mitigation that could be considered during the development of detailed designs for Haslar.

**Rowner Regeneration Area**

6.3.14 The Rowner Regeneration Area is a residential scheme, depicted on Figure 6.4, that aims to transform an established 1960s estate by developing up to 700 new dwellings (a net increase of 200) and new local centre with retail, health, educational and community facilities. The Davenport Close allocation is nearby with capacity for approximately 20 new dwellings.



**Figure 6.4: Rowner Regeneration Area**

6.3.15 Rowner is towards the centre of Gosport peninsula and is not restricted by some of the issues facing waterfront sites, but there are a number of Important and Uncertain wader and Brent Goose sites to the south and east that could be affected by an increased population. These include Important Brent Goose sites at HMS Sultan Sports Field (G02), Bayhouse School Playing Field North/South (G10/G15) and the beach at Stokes Bay and Browdown (G37). There are also several wader sites of Uncertain importance, including those just named.

6.3.16 Conversely, existing and new residents are intuitively more likely to be drawn to the Alver Valley for recreation, which is much larger and is being developed as a new Country Park, forming a

major part of the borough and sub-regional solution to recreational disturbance. One area within Alver Valley is of Uncertain importance for Brent Goose (G25B) while five are Uncertain for waders (G14, G25A, G25B, G25C, 25D - see below).

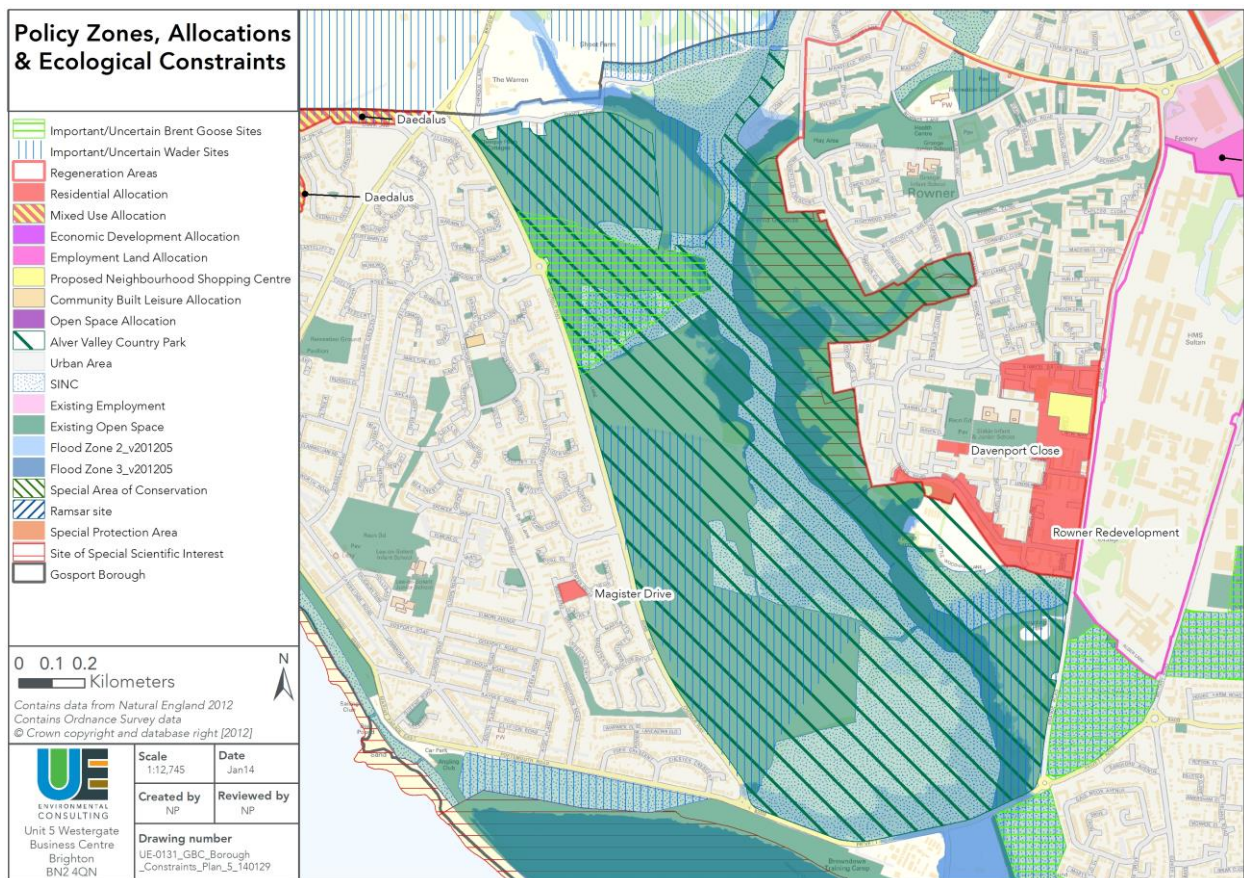
6.3.17 Table 6.7 summarises the number of Important/Uncertain sites for Brent goose and waders within 500m of the Rowner allocation. Table 6.9 summarises the potential for impacts to occur as a result of the allocation, and lists possible mitigation that could be considered during the development of detailed plans for the site.

**Table 6.7: Number of Important/Uncertain sites within 500m of Rowner**

Site	Use	Wader Sites		Brent Goose Sites		NRU
		Important	Uncertain	Important	Uncertain	
Rowner	Resi	0	5	2	1	1

**Alver Valley Country Park**

6.3.18 Rather than being a generator of impacts, the Alver Valley will play a key role in mitigating the effects described above; see Figure 6.5.



**Figure 6.5: Alver Valley Country Park**

6.3.19 Part of the Alver Valley has been used for gravel extraction and subsequent restoration works are largely complete. The Alver Valley encompasses a diversity of habitats and landscapes

including a range of wetlands, woodlands and grasslands. It is an important corridor linking open land to the north with the coast at Browndown and Stokes Bay. The Council intends to continue to manage the area by providing a range of informal and formal recreational opportunities in appropriate locations compatible with the objectives of protecting wildlife and enhancing habitats. The proposed recreational uses include picnic areas, trails, footpaths, cycleways, bridleways and interpretative facilities.

- 6.3.20 The proposed Country Park represents the largest element of green infrastructure in the borough, will be sub-regionally significant when complete and will include linkages to other strategic open spaces such as the coastal areas of Stokes Bay, Browndown and the Lee-on-the-Solent seafront. It will also link to the wider countryside areas within Fareham borough between Gosport, Fareham, Stubbington and Lee-on-the-Solent.
- 6.3.21 The Alver Valley will provide significant recreational opportunities to local residents and thereby reduce the need for residents to travel out of the borough to access similar facilities. By promoting a large semi-natural greenspace in this location the proposal will help reduce the impacts of recreational disturbance, and dog-walking in particular, on more sensitive habitats locally as well as attracting visitors from other parts of the sub-region. The Alver Valley represents a strategic element of the South Hampshire green infrastructure network, and development contributions should be collected accordingly in order to ensure it can play a full role in deflecting impacts from European sites. The Rowner renewal area is particularly relevant in this respect given its close proximity to the site.
- 6.3.22 Special attention will need to be given to planning the distribution of recreational uses across the Alver Valley in order to maintain and enhance existing areas of ecological value within and adjacent to the proposed Country Park. One area within Alver Valley is of Uncertain importance for Brent Goose (G25B) while five are Uncertain for waders (G14, G25A, G25B, G25C, 25D). Important Brent goose foraging habitats can also be found nearby at Bayhouse School Playing Fields (north and south) and HMS Sultan Sports Field. Additionally, access, landscaping and habitat improvements will need to take account of Natural England’s (2008) alternative natural greenspace guidance in order to optimise its role in offsetting impacts. Furthermore, visitor surveys will need to be undertaken to establish current patterns of recreational activity within Alver Valley, and monitor how this develops over time in relation to the delivery of local and sub-regional residential development.
- 6.3.23 Table 6.8 summarises the number of Important/Uncertain sites for Brent goose and waders within 500m of the Alver Valley Country Park allocation. Table 6.10 summarises the potential for impacts to occur as a result of the allocation, and lists possible mitigation that could be considered during the development of detailed plans for the site.

**Table 6.8: Number of Important/Uncertain sites within 500m of Alver Valley**

Site	Use	Wader Sites		Brent Goose Sites		
		Important	Uncertain	Important	Uncertain	NRU
Alver Valley	Country Park	0	14	4	1	1

**Table 6.9: Impacts and mitigation: Rowner**

Type / receptor	Likelihood of impact	Examples of mitigation
Human activity: SPA/Ramsar	Unlikely due to distance	n/a
Human activity: BG/wader site	Possible, esp. to G02, G10, G15 and Uncertain sites in Alver Valley	Improved management, interpretation, refuge zones*, screening of activity (dog-walking, cycling, etc)
Construction noise: SPA/Ramsar	Unlikely due to distance	n/a
Construction noise: BG/wader site	Possible, esp. to G02, G10, G14	Restricted timing of works (seasonal and/or tidal state), screening, sound barriers
View lines: SPA/Ramsar	Unlikely due to distance	n/a
View lines: BG/wader site	Possible, esp. to G02, G14	Buildings set back from supporting habitats, stepped building heights, gaps between buildings
Overshadowing (displacement & food availability): SPA/Ramsar	Unlikely due to distance	n/a
Overshadowing (displacement & food availability): BG/wader site	Unlikely due to distance	n/a
Light pollution: SPA/Ramsar	Unlikely due to distance	n/a
Light pollution: BG/wader site	Unlikely due to distance	n/a
Habitat loss: SPA/Ramsar	Unlikely due to distance	n/a
Habitat loss: BG/wader site	Unlikely due to distance	n/a
Collision risk: SPA/Ramsar	Unlikely due to distance	n/a
Collision risk: BG/wader site	Possible, depending on building heights, positioning	See para 6.1.18

\* Design of new/enhanced open spaces could consider zoning so that a substantial space is greater than the typical response distance of Brent Goose and waders (about 90m; see Stillman *et al*, 2012) from points of access, routes and focal points for activity.

**Table 6.10: Impacts and mitigation: Alver Valley**

Type / receptor	Likelihood of impact	Examples of mitigation
Human activity: SPA/Ramsar	Beneficial effects likely as allocation offers alternative to SPA/Ramsar	n/a
Human activity: BG/wader site	Possible, esp. to Uncertain sites in Alver Valley (and perhaps G02, G10, G15)	Improved management, interpretation, refuge zones*, screening of activity (dog-walking, cycling, etc)
Construction noise: SPA/Ramsar	Unlikely due to distance, small scale of development	n/a
Construction noise: BG/wader site	Unlikely due to small scale of development	n/a
View lines; Overshadowing (displacement & food availability): SPA/Ramsar	Unlikely due to distance, small scale of development	n/a
View lines; Overshadowing (displacement & food availability): BG/wader site	Unlikely due to small scale of development	n/a
Light pollution: SPA/Ramsar	Unlikely due to distance, small scale of development	n/a
Light pollution: BG/wader site	Possible but not likely to be significant	Use of low intensity, directional, low-level and movement-activated lighting
Habitat loss: SPA/Ramsar	Unlikely due to distance, small scale of development	n/a
Habitat loss: BG/wader site	Possible small-scale loss of Important/Uncertain habitats due to park projects	Completion of 3 winters' bird surveys, safeguarding/re-provision of important habitats
Collision risk: SPA/Ramsar	Unlikely due to distance, small scale of development	n/a
Collision risk: BG/wader site	Unlikely due to distance, intervening structures	n/a

\* Design of new/enhanced open spaces could consider zoning so that a substantial space is greater than the typical response distance of Brent Goose and waders (about 90m; see Stillman *et al*, 2012) from points of access, routes and focal points for activity.

### **Allocations outside of Regeneration Areas**

6.3.24 A number of smaller sites around the borough are allocated in the Local Plan for a variety of uses in policies LP9A, B, C, D and E; see Table 6.11 and Figure 6.6. Table 6.12 summarises the number of Important/Uncertain sites within 500m of those additional allocations which are to be developed for residential and open space uses.

**Table 6.11: Allocations outside of Regeneration Areas**

<b>Name</b>	<b>Use</b>	<b>Approx. quantum</b>
<i>Laphorn Close</i>	Residential	14 dwellings
<i>Stoner Close</i>	Residential	17 dwellings
<i>Land at Aerodrome Road</i>	Employment (B1, B2, B8)	0.32ha / 1,100sqm
<i>Gosport Leisure Park</i>	Leisure (implemented)	-
<i>Former Frater House Site</i>	Economic development	-
<i>Grange Rd, s. of Huhtamaki</i>	Employment (B1, B2, B8)	-
<i>Wheeler Close</i>	Residential	16 dwellings
<i>Priddy's Hard Heritage Area</i>	Residential, commercial, community, leisure	Up to 100 dwellings
<i>Ramparts Park</i>	Open Space	-
<i>Royal Clarence Yard</i>	Residential	80 dwellings
<i>Cherque Farm, Twyford Drive</i>	Community and leisure	-
<i>Magister Drive</i>	Residential	13 dwellings
<i>Stokesmead</i>	Open Space	-
<i>Fort Gilkicker</i>	Residential	26 dwellings

6.3.25 Laphorn Close, Stoner Close, Magister Drive and Fort Gilkicker are residential allocations of between 13 and 26 dwellings, but each of them is in relatively close proximity to an Important or Uncertain wader and/or Brent Goose site (max. 300m). Detailed design will need to ensure adverse impacts on these species can be avoided, informed by project-level HRA where necessary. However, the majority of these sites already have planning permission. Types of mitigation that might be suitable include:

- ▶ Contributions towards improved management, interpretation, refuge zones, screening of activity (dog-walking, cycling, etc) within Important sites;
- ▶ Restricted timing of works (seasonal and/or tidal state), screening, or sound barriers to prevent displacement effects within Important sites;
- ▶ Buildings set back from supporting habitats, stepped building heights, and maintenance of gaps between buildings; and
- ▶ Use of low intensity, directional, low-level and movement-activated lighting.

# Policy Zones, Allocations & Ecological Constraints

-  Important/Uncertain Brent Goose Sites
-  Important/Uncertain Wader Sites
-  Regeneration Areas
-  Residential Allocation
-  Mixed Use Allocation
-  Economic Development Allocation
-  Employment Land Allocation
-  Proposed Neighbourhood Shopping Centre
-  Community Built Leisure Allocation
-  Open Space Allocation
-  Alver Valley Country Park
-  Urban Area
-  SINC
-  Existing Employment
-  Existing Open Space
-  Flood Zone 2\_v201205
-  Flood Zone 3\_v201205
-  Special Area of Conservation
-  Ramsar site
-  Special Protection Area
-  Site of Special Scientific Interest
-  Gosport Borough

0 0.3 0.6  
Kilometers



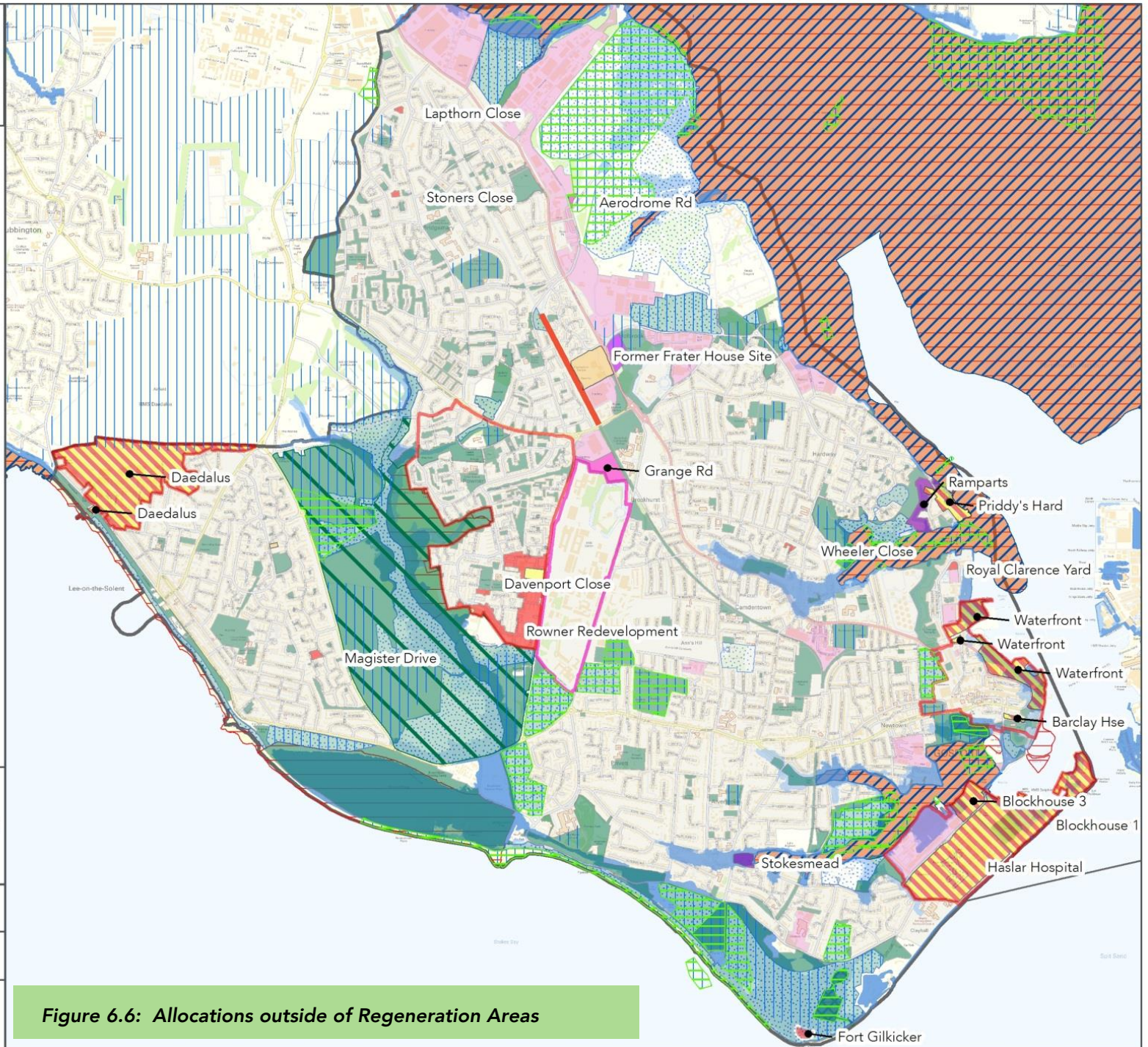
Contains data from Natural England 2012  
Contains Ordnance Survey data  
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Unit 5 Westergate  
Business Centre  
Brighton  
BN2 4QN

<b>Scale</b> 1:35,000	<b>Date</b> Jan14
<b>Created by</b> NP	<b>Reviewed by</b> NP

**Drawing number**  
UE-0131\_GBC\_Borough  
\_Constraints\_Plan\_5\_140129



**Figure 6.6: Allocations outside of Regeneration Areas**

**Table 6.12: Number of Important/Uncertain sites within 500m of other allocations**

Site	Use	Wader Sites		Brent Goose Sites		
		Important	Uncertain	Important	Uncertain	NRU
Fort Gilkicker	Resi	0	6	1	3	0
Magister Drive	Resi	0	3	0	0	0
Laphorn Close	Resi	0	5	0	1	0
Stoners Close	Resi	0	5	0	0	0
Wheeler Close	Resi	0	3	2	0	0
Royal Clarence Yard	Resi	0	4	3	1	0
Davenport Close	Resi	0	1	0	0	0
Priddy's Hard Heritage Area	Resi	0	5	4	1	0
Stokesmead	POS	0	7	1	4	0
Ramparts	POS	0	8	5	2	0

- 6.3.26 Royal Clarence Yard (c.45m south of the SPA/Ramsar) and Priddy's Hard Heritage Area (adjacent to the SPA/Ramsar) include larger residential allocations, and both are in close proximity Important / Uncertain wader and/or Brent Goose sites. The nearest Brent Goose / wader site to Priddy's Hard (outside of the SPA/Ramsar) is G04 which is of Uncertain importance for waders (c.590m west). The closest to Royal Clarence Yard is G03, Important for Brent Goose, Uncertain for waders, and c.570m south.
- 6.3.27 The Council is of the view that previous developments at Priddy's Hard have demonstrated that possible impacts are capable of being mitigated even at such close proximity to the SPA/Ramsar. These developments included a range of ecological mitigation measures including a screening wall, the retention and management of various habitats with restricted human access, as well as measures to deter people and dogs from using the intertidal. Surveys undertaken as part of the SDMP Phase 2 work at Priddy's Hard in January to March 2009 showed that Priddy's Hard was one of the busiest sites with 14.8 disturbance events per hour, including dog walkers and cyclists. However the study concluded that Priddy's Hard had one of the lowest disturbance rates despite the high numbers of visitors. Depending on the nature of future proposals in the area, it considers that an extension of the screening wall could continue to be an effective mitigation measure, although further work to demonstrate this would be required as part of any planning proposal.
- 6.3.28 Given the proximity to the SPA/Ramsar and comparatively high residential yield of these sites, detailed project-level HRA will be required to demonstrate how specific designs can ensure that adverse impacts on these species – other than those being addressed through the SDMP – can be avoided. Types of mitigation that might be considered suitable for these locations include:
- ▶ Restricted timing of works (seasonal and/or tidal state), screening or sound barriers to avoid construction noise impacts;



- ▶ Buildings set back from the waterfront, stepped building heights, and/or gaps between buildings to maintain view lines and prevent/reduce overshadowing;
- ▶ Use of low intensity, directional, low-level and/or movement-activated lighting, especially close to the waterfront;
- ▶ Measures such as those listed at paragraph 6.1.18 to prevent/reduce collision risks;
- ▶ Creation of new areas of habitat or planted buffer zones between development sites and sensitive habitats; and
- ▶ Use of closed-board fencing / walls to screen activity (e.g. dog-walking, cycling, etc) from view on the intertidal, and prevention of access to the intertidal.

6.3.29 Land at Aerodrome Road is a small allocation (0.3ha) within a large site (85.8ha) that is known to be Important off-site habitat for both waders and Brent Goose (site G18; King, 2010). Most of the latter is also designated as SINC, and it is understood that an extension to the SINC is being considered which would abut the boundary of the proposed allocation site. The latest information from Hampshire Biodiversity Information Centre<sup>7</sup> indicates that the most diverse and important coastal grassland habitat can be found at the northern and southern ends of the proposed extension. The area in the middle, which is adjacent to the proposed allocation, is not as diverse but adds wildlife value to the site through structure and connectivity. The southern area of most interest is to be found south of Bedenham Lane so there is an area of less interesting buffer habitat adjacent to the allocation site.

6.3.30 The allocation is for employment uses, and so there is less concern over the potential for increased regular use of the site for recreation than would be the case for residential development. Nonetheless, detailed designs for the development will need avoid impacts to waders and Brent Goose, and ensure that good quality roosting and foraging habitats are maintained, informed by project-level HRA if necessary. Similarly, the former Frater House Site (Fareham Road) coincides with an Uncertain wader roost site (G19) and will need to address this through detailed design, and project-level HRA if necessary. Mitigation as suggested above may be applicable but should be preceded by:

- ▶ Completion of 3 winters' bird surveys to establish whether habitats to be lost are important to local bird populations; and
- ▶ Safeguarding of habitats frequently used by waders or Brent Geese, or re-provision of habitats of equivalent size, quality and proximity to SPA/Ramsar.

6.3.31 Gosport Leisure Park, Grange Road, Cherque Farm and Wheeler Close are all allocated for a type, scale or location for development that is unlikely to affect either SPA/Ramsar or wader / Brent Goose sites in a site-specific manner.

6.3.32 Finally, Stokesmead is proposed as a new area of Public Open Space at the head of Stoke Lake, part of the SPA/Ramsar. Designs for the layout of the new park will need to ensure that mitigation as listed at paragraphs 6.3.28 and 6.3.30 is incorporated to ensure activities within

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<sup>7</sup> Email dated 28 August 2013 to Jayson Grygiel, Principal Planning Officer, Gosport Borough Council, from Dr Sarah Callegari, Ecologist, Hampshire Biodiversity Information Centre.

the park are directed away from the waterfront, or screened and managed to prevent disturbance affecting birds on the intertidal. This is acknowledged in the policy.

### **Marina Development**

- 6.3.33 Policy LP19 will govern the treatment of any proposals for new or extended marinas around the borough. It is a permissive policy, but identifies that all such development would need to avoid impacts to internationally important habitats and their features. Depending on the location of such a proposal, impacts could include disturbance (in any of the senses described above) as well as changes to coastal hydrodynamics and sedimentation, and pollution to air and water. The policy does not allocate or promote any new or extended marina development, and therefore does not require separate consideration within the HRA. However, if a proposal were to come forward, depending on its location, it would most likely require a project-level HRA.

## **6.4 Avoidance and Mitigation Integral to Plan**

- 6.4.1 The main Regeneration Area policies, except for Rowner and Alver valley, include both a policy element and explanatory text which aim to ensure adverse effects on European sites and their features can be adequately avoided and mitigated. These are summarised in Table 6.13.

**Table 6.13: Avoidance and mitigation integral to Regeneration Area policies**

### **Avoidance and mitigation integral to Regeneration Area policies**

#### **LP4 Gosport Waterfront and Town Centre**

Policy states:

4(b) appropriate measures are taken to remediate contamination and to ensure that there is no adverse impact on the water environment

4(h) measures to avoid and mitigate any impacts on internationally importance habitats are taken

Explanatory text states:

The Waterfront site is within 200 metres of the Portsmouth Harbour Special Protection Area and Ramsar Site and consequently consideration will need to be given to whether the proposal will have any impact on these important bird habitats. It will also be necessary to consider other sites in the vicinity that support internationally important species.

The Habitats Regulations Assessment makes it clear that any recreational pressures generated by the development must be carefully considered to ensure that it has no detrimental impact on the internationally important sites and other sites supporting internationally important species. It will be important that civic space adjacent the waterfront is designed and suitably managed to prevent impacts on intertidal areas within the vicinity including sufficient screening of activities (such as dog walking and cycling) to prevent disturbance to the intertidal areas. Early consultation with Natural England is advised. A number of measures should be considered as part of any development proposal including those highlighted in the HRA Report as well as those identified in the Solent Disturbance and Mitigation Strategy.

The scale, form, massing and height of new buildings at Gosport Waterfront will also need careful consideration to prevent adverse effects through overshadowing, reduction of sight lines, over-illumination & collision risk to birds. The implications of any traffic-related air pollution on international sites will also need to be considered.

Given the industrial and defence related history of the site it is likely that significant areas will contain some form of contamination. Developers will need to take appropriate measures to address the contamination issue and make

### Avoidance and mitigation integral to Regeneration Area policies

safe for future users. It will be necessary to ensure that there is no adverse impact on the quality of the water environment including ensuring that any land disturbance does not create a pathway which could harm coastal waters including internationally important habitats.

#### LP5 Daedalus

Policy states:

3(g) it includes measures to avoid and mitigate any impacts on internationally important habitats. Proposals should preserve and where possible enhance biodiversity and geological interests in the vicinity

3(h) environmental considerations such as contamination and flood risk issues are assessed and fully addressed

Explanatory text states:

The site is within 100 metres of the mudflats at Hill Head which form part of the Solent and Southampton Water Special Protection Area (SPA) and Ramsar site which are of international importance for wading birds.

It will be necessary to ensure that development does not have a detrimental impact on the features of the European sites either alone or in combination with other plans and projects. If there was such an impact the proposal would not be in accordance with the Council's planning policies and would be refused. Consequently it will be necessary to ensure proposals avoid and mitigate any impacts on internationally important habitats (or areas outside of the designated sites known to be of importance to the internationally important species).

The Habitats Regulation Assessment for the Local Plan recognises that development at Daedalus has the potential to have a detrimental impact on the internationally important habitats. A number of measures should be considered as part of any development proposal including those highlighted in the HRA Report as well as those identified as part of the Solent Disturbance and Mitigation Project.

When considering the outline planning application for the site the two Borough Councils and Natural England have agreed in principle the creation of a significant informal recreational area within the north east corner of the Daedalus site (within Fareham Borough) to provide a suitable accessible natural greenspace (often referred to as a SANG). It is intended that this area will deflect recreational pressure particularly from dog walking away from the sensitive sites at Hill Head by attracting at least the equivalent number of households created by the Daedalus development who would otherwise have visited the Hill Head site. In addition the recreational improvements within the Alver Valley as part of the Country Park will become increasingly attractive to a larger number of dog walkers from the wider area.

In order to minimise recreation disturbance, access towards Hill Head will require careful management and recreational access towards the south and the east of the site should be promoted and maximised including the Lee Clifflands and beach, and the Alver Valley.

A project level HRA will be required at the planning application stage for development outside the scope of the outline planning application (which has been agreed in principle by the two local planning authorities) and any potential Local Development Order.

Whilst the risk from tidal flooding at the Daedalus site is minimal (the site is in Flood Zone 1) a Flood Risk Assessment (FRA) will be required given the size of the site and scale of development in order to address issues such as surface run-off. Sustainable Drainage Systems (SuDS) may offer opportunities to reduce surface water run-off. The FRA would need to include a SuDS feasibility study to identify: any constraints of using SuDS (such as contamination issues); any particular SuDS techniques that could be utilised on-site; and any area of land that would be required. Other issues such as the consideration of contaminated land will need to be fully addressed through more detailed stages of the planning process.

#### LP6 Haslar Peninsula

Policy states:

1 (c) measures to avoid and mitigate any impacts on internationally important habitats are taken. Proposals should

### **Avoidance and mitigation integral to Regeneration Area policies**

protect and enhance biodiversity on-site and within the vicinity including protected species and important habitats  
1(f) contamination issues are addressed

Explanatory text states:

The Haslar Peninsula is adjacent internationally important habitats (Portsmouth Harbour SPA and Ramsar Site). Consequently it will be necessary to assess proposals for the sites in terms of their potential impact on the important habitats in combination with other proposals.

The Habitats Regulation Assessment for the Local Plan recognises that development on the Haslar Peninsula has the potential to have a detrimental impact on the internationally important habitats. Consequently it will be necessary to ensure proposals avoid and mitigate any impacts on internationally important habitats (or areas outside of the designated sites known to be of importance to the internationally important species). A number of measures should be considered including those highlighted in the HRA Report as well as those identified as part of the Solent Disturbance and Mitigation Project.

A project level HRA is likely to be required at the planning application stage depending on the location and the nature of the proposal on the Haslar Peninsula. It will be necessary to ensure that development does not have a detrimental impact on the features of the European sites either alone or in combination with other plans and projects. If there was such an impact the proposal would not be in accordance with the Council's planning policies and would be refused.

Particular consideration will need to be given to the potential impact that development could have on Haslar Lake. There will need to be careful management to prevent access onto the intertidal area, with sufficient screening to ensure dog walkers and cyclists do not disturb birds within the SPA/Ramsar. The policy also requires that sections of the Solent frontage are opened up to public access. While there are no SPA/Ramsar designations along this stretch, the southern seawall is a potentially important wader roost. Proposals to open up the route will require additional bird surveys and careful planning and design.

Due to the long-term military and medical uses of the sites it will be necessary to ensure that any contamination issues are satisfactorily mitigated in accordance with Policy LP47. It will also be necessary to ensure that any land disturbance does not create a pathway which could have an impact on coastal waters including the adjacent internationally important habitats.

### **LP9A Allocations Outside the Regeneration Areas: Mixed Use Site**

Policy states:

1 Priddy's Hard Heritage Area

(a) accord with the National Planning Policy Framework on internationally important habitats including taking measures to avoid and mitigate any adverse impacts on internationally important habitats

Explanatory text states:

The site is adjacent the Portsmouth Harbour Special Protection Area, Ramsar site and Site of Special Scientific Interest. Consequently any development will need to ensure that the nature conservation interests of these sites are not harmed and that the appropriate avoidance and mitigation measures are incorporated as part of any development proposal in accordance with the Habitats Regulations.

The Borough Council aims to ensure that the public can enjoy the views across the Harbour and therefore public access along the waterfront should be improved. Proposals will need to fully consider the potential impact on the international habitats and incorporate measures which reduce disturbance on the over-wintering birds, as undertaken in other parts of Priddy's Hard. Further consideration will need to be given to this issue as part of the appropriate assessment of any planning application.

## Avoidance and mitigation integral to Regeneration Area policies

### LP9B F Allocations Outside the Regeneration Areas: Economic Development Use Sites

Policy states:

1 Former Frater House site, Fareham Road

(g) protect and enhance biodiversity features in accordance with policies LP42-44

Explanatory text states:

In accordance with policies LP42-44 it will also be necessary to undertake appropriate ecological studies of the site and ensure that development does not have a detrimental impact on features of ecological importance. This includes other habitats in the vicinity such as those areas outside of designated sites known to be of importance for protected species (such as Brent Geese and waders).

### LP9C Allocations Outside the Regeneration Areas: Employment Sites

Policy states:

2 Land at Aerodrome Road

(b) protect and enhance biodiversity features in accordance with policies LP43-45

Explanatory text states:

Further consideration will also be required as to the ecological importance of the site and consequently any proposals will need to accord with policies LP43-45. Whilst the site has not been designated as an internationally, nationally or locally important site there is evidence that this site forms part of a much larger area where protected Brent geese and wader species have been recorded in significant numbers and frequencies. Consequently in accordance with the Habitats Regulations it is important to safeguard areas outside of designated sites known to be of importance for these species. However there is uncertainty in whether the land proposed for employment is used by these important species given its location and characteristics of the site.

### LP9C Allocations Outside the Regeneration Areas: Leisure, Community Uses and Open Spaces

Policy states:

3 Stokesmead

(a) accord with national policies on internationally important habitats

Explanatory text states:

Built development, including residential is not suited at this location for a number of reasons and the site should be retained as open space outside the urban area boundary. These reasons include:

- the site is adjacent an internationally important habitat and is able to provide a useful buffer between that area and housing...

### LP42 Internationally and Nationally Important Habitats

Policy states:

1 Planning permission will not be granted for development which will affect the integrity of internationally important sites. Such sites will be subject to the highest level of protection as set out in the relevant international and national regulations.

2 All new residential development will be required to avoid or mitigate likely significant 'alone' and 'in-combination' effects on internationally important habitats caused by recreational disturbance ...

Explanatory text states:

...the Borough Council is minded that development in Gosport Borough in-combination with other developments in the sub-region may in certain circumstances have an effect on other international designations, for example the Solent and Southampton Water SPA which is adjacent the Borough boundary at Hill Head within Fareham Borough. It will also be necessary to protect the integrity of

### **Avoidance and mitigation integral to Regeneration Area policies**

these designations including the consideration of the effects of development on important sites outside the SPA and Ramsar site which support important populations of bird species such as Brent geese which may use a site for purposes such as feeding and roosting.

In relation to internationally important sites the Government's Conservation of Habitats and Species Regulations 2010, which transpose the European Union Habitats Directive into national law, are relevant. These are often referred to as the Habitats Regulations. It is now a requirement for each local planning authority to conduct a Habitats Regulation Assessment (HRA) of relevant DPDs. Policies and proposals in the Gosport Local Plan in combination with other plans and programmes within the Borough and the sub-region (and beyond) will not be acceptable where there is the potential for an adverse impact on the features of an internationally important site. An HRA Report accompanies the Local Plan and its recommendations have been taken into account throughout the Plan including issues relating to recreational disturbance, traffic-related air pollution and coastal defences.

Developers should refer to the Habitats Regulations in instances where a proposal may impact upon the integrity of such sites. Policy LP42 reinforces the significance of this issue and consequently developers will need to consider these matters at the earliest possible stage when preparing their proposals and provide sufficient information for the Local Planning Authority to undertake the appropriate assessment. A number of issues should be considered as part of development proposals including those highlighted in the Local Plan's Habitats Regulations Assessment.

Any proposal which may have a significant effect upon a European site or a species protected by European legislation, either alone or in combination with other current proposals and projects, will need to be subject to an 'appropriate assessment' and is likely to require an Environmental Impact Assessment. The information provided by the developer will enable the Local Planning Authority, with guidance from Natural England, to ascertain whether the proposal will have an adverse impact on the nature conservation value of a site.

In order to understand the issue of recreational disturbance and its potential impact on internationally important habitats detailed research has been undertaken as part of the Solent Disturbance and Mitigation Project (SDMP). This work has been coordinated by the Solent Forum and has involved a number of organisations including Natural England, Environment Agency, all the local authorities around the Solent, relevant harbour groups and the RSPB. The work has concluded that existing and new residential development is likely to have an adverse impact on protected bird species that use the European sites as a result of recreational disturbance generated by local residents.

Natural England have made it clear that SDMP work represents the best available evidence and therefore avoidance and mitigation measures are required in order to ensure a significant effect, arising from new housing development around the Solent, is avoided. It acknowledges that partnership work is underway and expects that all residential development contributes towards the avoidance and mitigation measures. The nature and level of the mitigation will depend on the scale and location of the residential development and whether there are any specific impacts related to the development or whether the impacts are primarily as a result of being in-combination with other development around the Solent.

Consequently it will be a requirement of new residential development to contribute towards the measures identified by the Project and others that may be considered appropriate. A broad level Mitigation Strategy has been produced as part of the SDMP and work is being undertaken to implement a package of interim measures which will form part of a longer term action plan. This could include the implementation of on-site measures as part of the development proposal and/or financial contributions to local and/or sub-regional projects. The package of measures could include coastal rangers, education initiatives particularly focussed at dog walkers, as well as various potential access management projects and suitable alternative natural greenspaces (SANGs) to deflect pressure from

**Avoidance and mitigation integral to Regeneration Area policies**

sensitive parts of the coast. The work is on-going and the latest information can be found on the relevant website. The Borough Council will produce a procedure note once an agreed approach has been adopted.

**6.5 Impact Assessment**

6.5.1 Table 6.14 uses the SPA conservation objectives as a checklist to determine whether adverse effects on ecological integrity are likely to occur as a result of the plan (adapted from English Nature, 2004). In summary, the policy provisions listed in the previous section are considered sufficient to ensure that site specific impacts of development proposals for LP4 Gosport Waterfront and Town Centre, LP5 Daedalus, LP6 Haslar Peninsular, LP7 Rowner, LP8 Alver Valley Country Park, LP9A-E Other Allocations and LP34 Provision of New Open Space, can be avoided and/or mitigated.

**6.6 Conclusions**

6.6.1 It can be concluded that there will be no adverse effects as a result of site-specific disturbance and related impacts, and that the plan is Habitats Regulations compliant in this respect.

**Table 6.14: Assessment of effects on integrity, in view of the sites' conservation objectives**

<b>Has the Appropriate Assessment shown that there will be no negative impact on...?</b>	<b>Y/N</b>
<b>Portsmouth, Langstone and Chichester Harbours, and Solent &amp; Southampton Water SPA/Ramsars</b>	
<p>The extent and distribution of the habitats of the qualifying features</p> <p>Policy provisions for Regeneration Areas and Site Allocations highlight the possible risk of site-specific impacts to designated sites and their qualifying habitats and species, including Important/Uncertain sites used by Brent Goose and waders outside of designated site boundaries, and require development proposals to address these risks at the detailed design stage. The policies and their explanatory text identify measures which are capable of avoiding or mitigating such impacts, and/or cross-refer to this HRA Report which gives an extensive list of suggested measures, and require development proposals to incorporate such measures into detailed designs.</p> <p>Development proposals that comply with the requirements of the Local Plan policies, taken as whole, are considered unlikely to negatively affect the extent and distribution of the habitats of the qualifying features.</p>	<b>Yes</b>
<p>The structure and function of the habitats of the qualifying features</p> <p>Policy provisions for Regeneration Areas and Site Allocations highlight the possible risk of site-specific impacts to designated sites and their qualifying habitats and species, including Important/Uncertain sites used by Brent Goose and waders outside of designated site boundaries, and require development proposals to address these risks at the detailed design stage. The policies and their explanatory text identify measures which are capable of avoiding or mitigating such impacts, and/or cross-refer to this HRA Report which gives an extensive list of suggested measures, and require development proposals to incorporate such measures into detailed designs.</p>	<b>Yes</b>

Development proposals that comply with the requirements of the Local Plan policies, taken as whole, are considered unlikely to negatively affect the structure and function of the habitats of the qualifying features.

The supporting processes on which the habitats of the qualifying features rely

**Yes**

Policy provisions for Regeneration Areas and Site Allocations highlight the possible risk of site-specific impacts to designated sites and their qualifying habitats and species, including Important/Uncertain sites used by Brent Goose and waders outside of designated site boundaries, and require development proposals to address these risks at the detailed design stage. The policies and their explanatory text identify measures which are capable of avoiding or mitigating such impacts, and/or cross-refer to this HRA Report which gives an extensive list of suggested measures, and require development proposals to incorporate such measures into detailed designs.

Development proposals that comply with the requirements of the Local Plan policies, taken as whole, are considered unlikely to negatively affect the supporting processes on which the habitats of the qualifying features rely.

The populations of the qualifying features

**Yes**

Policy provisions for Regeneration Areas and Site Allocations highlight the possible risk of site-specific impacts to designated sites and their qualifying habitats and species, including Important/Uncertain sites used by Brent Goose and waders outside of designated site boundaries, and require development proposals to address these risks at the detailed design stage. The policies and their explanatory text identify measures which are capable of avoiding or mitigating such impacts, and/or cross-refer to this HRA Report which gives an extensive list of suggested measures, and require development proposals to incorporate such measures into detailed designs.

Development proposals that comply with the requirements of the Local Plan policies, taken as whole, are considered unlikely to negatively affect the populations of the qualifying features.

The distribution of the qualifying features within the site

**Yes**

Policy provisions for Regeneration Areas and Site Allocations highlight the possible risk of site-specific impacts to designated sites and their qualifying habitats and species, including Important/Uncertain sites used by Brent Goose and waders outside of designated site boundaries, and require development proposals to address these risks at the detailed design stage. The policies and their explanatory text identify measures which are capable of avoiding or mitigating such impacts, and/or cross-refer to this HRA Report which gives an extensive list of suggested measures, and require development proposals to incorporate such measures into detailed designs.

Development proposals that comply with the requirements of the Local Plan policies, taken as whole, are considered unlikely to negatively affect the distribution of the qualifying features within the site.



# 7 Flood Risk and Coastal Squeeze

## 7.1 Baseline Conditions

7.1.1 Gosport Borough has 10km of open coastal frontage and 23km of frontage onto Portsmouth Harbour. The River Alver is the only watercourse in the Borough, with a total main river length of 5km. At present (August 2012), approximately 15% of the Borough’s land area is designated as within Flood Zones 2 and 3a. The key parts of the Borough which are currently at risk of flooding from the sea are the entire frontage of Haslar Creek, Stokes Bay, the Alver Valley and the southern half of the Portsmouth Harbour frontage, particularly around Priddy’s Hard; see Figure 7.1.

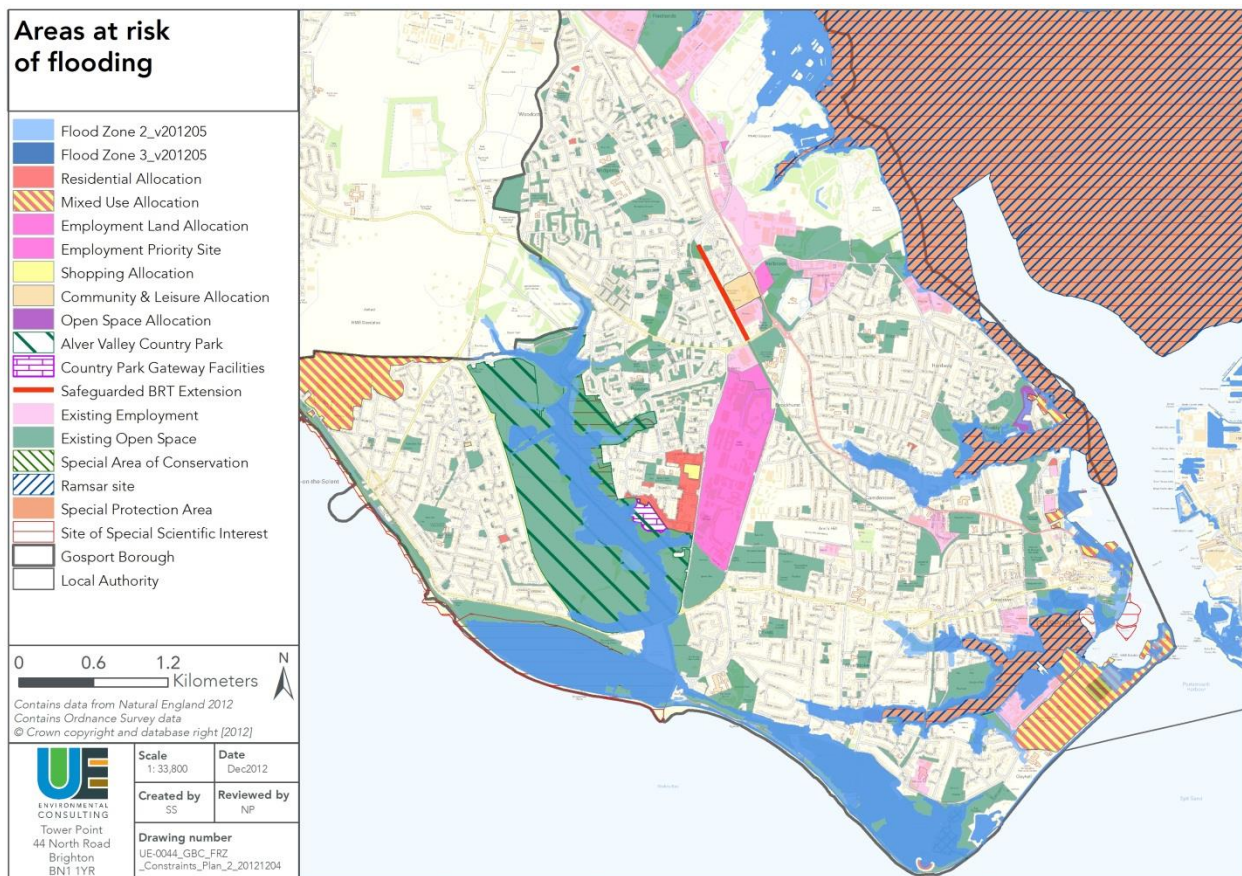


Figure 7.1: Flood zones 2 and 3 within Gosport borough

## 7.2 Impact Source

7.2.1 The screening exercise identified the residential elements of the following policies as the drivers of increasing flood risk:

- LP4 Gosport Waterfront & Town Centre
- LP6 Haslar Peninsular
- LP9A Other Allocations: Mixed Use
- LP9D Other Allocations: Residential

### 7.3 Impact Pathway

- 7.3.1 Protection of the Solent coastal areas from erosion and flood risk is governed by the North Solent Shoreline Management Plan (SMP; New Forest District Council (NFDC), 2010), which is in turn supported by a series of local strategies which set out individual projects for delivery the policies in the SMP. The seafrontages of the Gosport peninsula include saltmarsh, mudflat and sandbank, hard-engineered coastal defences, and shingle beach. Seaward of the high water mark north of the Town Centre are the designated habitats of Portsmouth Harbour SPA/Ramsar (which also stretches inland at Priddy’s Hard and Haslar Lake). Together, these areas support important populations of European-protected species, notably bird assemblages.
- 7.3.2 The need to protect life and property means that, in the majority of urban areas, coastal defences will be maintained or enhanced. This, in combination with rising sea levels and increased storm surges associated with climate change, creates coastal squeeze by reducing the available intertidal zone, the area over which protected habitats and species occur. Across the Solent system, the intertidal zone is estimated to have decreased by between 50% and 90% in some places (Atkins, 2009). Table 7.1 summarises current and future policies in Gosport (NFDC, 2010) for all three epochs considered (0-20yrs, 20-50yrs and 50-100yrs).

**Table 7.1: Shoreline Management Plan policies in Gosport**

Management Unit (frontage segment)	SMP Policy
<i>5b02: Fleetlands (MoD boundary) to Quay Lane (MoD boundary)</i>	Hold the line
<i>5b01: Quay Lane (MoD) to Portsmouth Harbour entrance</i>	Hold the line
<i>5a25: Portsmouth Harbour entrance to Gilkicker Point</i>	Hold the line
<i>5a24: Gilkicker Point to Meon Road, Titchfield Haven</i>	Hold the line

- 7.3.3 The SMP is a plan of Competent Authorities and as such, in making policy decisions, it is responsible for addressing the environmental implications of policy including where the policy covers private land and third party defences. SMPs are subject to consideration under the Habitats Regulations and, if there are no alternatives for a policy decision, potential losses of intertidal habitats can be considered a necessary part of the plan, in order to protect current assets (life and property) which are stated as Imperative Reasons of Overriding Public Interest. The SMP is then required to find compensatory habitat for all of the coastal squeeze caused by the policy decision, for both privately and publicly owned land.
- 7.3.4 The Solent Dynamic Coast Project (SDCP; CCO, 2008), drawing on the Solent Coastal Habitat Management Plan (Bray & Cottle, 2003), was initiated to inform development of the North Solent SMP to ensure compliance with the requirements of the Habitats and Birds Directives. The focus was on mudflat and saltmarsh habitats as these form the largest expanse of coastal habitats across the north Solent that are immediately under threat from climate change and coastal management decisions. The main objectives were to:
- ▶ clarify legal drivers and liabilities to provide information to planning authorities on the need to preserve intertidal habitat creation sites for their purpose;

- ▶ quantify the amount of intertidal coastal squeeze over the next 100 years that requires replacement habitat;
- ▶ identify sites where intertidal habitat creation is physically possible;
- ▶ quantify the amount of intertidal habitat creation sites that could potentially offset intertidal coastal squeeze over the next 100 years;
- ▶ undertake preliminary ranking and assessment of the feasibility of conducting managed realignment relative to other impacting variables; and
- ▶ develop a region-wide framework of potential intertidal habitat mitigation and compensation sites.

7.3.5 The Appropriate Assessment of the North Solent SMP under the Habitats Regulations indicates the extent of habitat losses anticipated as a result of implementing SMP policy; Table 7.2 summarises the findings of the assessment in relation to estimated habitat loss within Portsmouth Harbour SPA/Ramsar, Chichester and Langstone Harbours SPA/Ramsar and Solent Maritime SAC over the next 100 years. These losses are considerable but will be compensated through the Regional Habitat Creation Programme (RHCP).

**Table 7.2: Habitat losses and gains around Gosport as a result of SMP policies (Source: NFDC, 2010, Appendix J, pp.68-85)**

Habitat group	Habitat change (ha)			Total change (ha)
	Epoch: 0 – 20yrs	20 – 50yrs	50 – 100yrs	
<b>Portsmouth Harbour SPA/Ramsar</b>				
Mudflat	-12	-43	-105	-160
Saltmarsh	-16	-11	-7	-34
<b>Chichester and Langstone Harbours SPA/Ramsar</b>				
Mudflat	+35	+15	-64	-14
Saltmarsh	-74	-76	-56	-199
Coastal grazing marsh	0	0	-6	-6
<b>Solent Maritime SAC</b>				
Mudflat	+55	+77	-3	+142
Saltmarsh	-108	-159	-163	-419
Saline Lagoon	0	-3/+3*	0	0

\* Loss of saline lagoon in epoch 2 is mitigated within the same period

7.3.6 The Appropriate Assessment also gave consideration to possible additional effects on saline lagoons, freshwater habitats, vegetated and un-vegetated shingle, sand dunes, estuaries, and feeding and high tide roost sites landward of defences; a summary of the findings is presented in Table 7.3. Further studies and more detailed lower-tier assessment are needed to examine these effects in more detail.

**Table 7.3: Summary of other effects on habitat features as a result of SMP policies (Source: NFDC, 2010, Appendix J, pp.68-85)**

Feature	Portsmouth Hbr	Chich/Lang Hbrs	Solent Maritime	Solent loW Lgns
Un/vegetated shingle	No adverse effect	No adverse effect	No adverse effect	n/a
Sand dunes	n/a	No adverse effect	No adverse effect	n/a
Feeding / high tide roosts	No adverse effect	Adverse effect	n/a	n/a
Estuaries	Adverse effect	Adverse effect	Adverse effect	n/a
Saline lagoons	No adverse effect	No adverse effect	No adverse effect	No adverse effect
Freshwater habitat	n/a	n/a	No adverse effect	n/a

7.3.7 Regeneration Areas at Gosport Waterfront and Haslar Peninsula, and allocations at Priddy’s Hard Heritage Area and Fort Gilkicker, include land within flood zones 2 and 3, and the extent of these zones is likely to increase over coming years due to rising sea level. This is acknowledged within the Local Plan, and consequently the sequential and exception tests are applied. Development within these sites is linked to specific local regeneration objectives that cannot be met elsewhere in the borough. However, the land uses to be allocated to the area include uses classified as ‘more vulnerable’, such as hospitals, residential institutions and dwellings, and in some cases essential transport infrastructure (access routes). These uses increase the risks associated with flooding due to their vulnerability, and may require the standard of flood defence to be improved over and above the level currently in place and required in order to hold the line in accordance with SMP policy.

7.3.8 Flood risk assessments are needed to establish the level of flood risk associated with development and consequent flood defence infrastructure requirements; this work is currently being prepared. However, while the Environment Agency’s RHCP aims to provide strategic delivery of compensatory habitats as identified through the HRA of the SMP (as well as compensatory habitats required to offset coastal squeeze losses caused by the continued maintenance of existing third party defences), third parties will be responsible for compensation for any increased coastal squeeze losses due to construction of new coastal defences or direct impacts of proposed improvements to existing coastal defences, which would include altering the footprint of a defence.

7.3.9 Such improvements may be required at Gosport Waterfront, Haslar Peninsula, Priddy’s Hard and Fort Gilkicker in order to sufficiently protect more vulnerable land uses against flood risk and rising seas. A statement from the Environment Agency states that:

*“Land owners may be able to avoid an adverse effect through the design of their proposed works, either by avoiding an increased footprint or by a modest realignment of their defences within their own landholding. They could be eligible for Environmental Stewardship payments for any inter-tidal habitat that is created as a result of their works. The RHCP may be able to provide compensatory habitat in return for an appropriate*

*financial contribution, but this would depend on sufficient compensatory habitat being available, as priority would be given to compensatory habitat required for publicly-funded flood and coastal risk works.” Environment Agency, 2009, p.2.*

- 7.3.10 However, regardless of whether or not there is sufficient ‘headroom’ within the RHCP for compensatory habitat to be offered in return for a financial contribution, the statement assumes that the IROPI test can be met which is not necessarily the case. On the other hand, as the statement suggests, it may be possible to achieve the required level of flood defence while avoiding adverse effects through design measures. It is clear therefore that the question of whether there will be adverse effects on Portsmouth Harbour SPA/Ramsar in relation to development at Gosport Waterfront, Haslar Peninsula, Priddy’s Hard and Fort Gilkicker is dependent on development design and the way in which the policies are implemented.

#### **7.4 Avoidance and Mitigation Integral to Plan**

- 7.4.1 Policies LP4, LP6 and LP9A refer both to the need for site-specific Flood Risk Assessments, and to protect internationally important habitats. Furthermore, policy LP45 on Flood Risk and Coastal Erosion includes the following policy provision:

*“Planning permission will be granted for flood risk management measures provided the scheme does not individually or cumulatively have a detrimental impact on internationally important habitats and that any necessary avoidance and mitigation measures have been secured.”*

- 7.4.2 The explanatory text for this part of the policy expands on this requirement, stating that:

*“It will be necessary to ensure that new or improved flood risk management measures do not have a detrimental impact on internationally important habitats. The broad principle for such measures has been established in the North Solent Shoreline Management Plan (SMP). The accompanying Habitat Regulations Assessment to the SMP indicated the extent of habitat losses anticipated as a result of implementing SMP policy and that these losses will be compensated by the Region Habitat Creation Programme (RHCP). There are large areas of the Borough which contain significant habitats (including sites of national and international importance) supporting a wide range of protected species, it is important these areas of nature conservation interest are protected and therefore, applications for flood risk management infrastructure will need to be considered against national policies and the local nature conservation policies in this plan (LP42-LP44).*

*“Some improvements to identified flood risk management measures may increase the standard of protection to a level over and above that identified through the North Solent SMP and the emerging River Hamble to Portchester Coastal Flood and Erosion Risk Management Strategy. Where such improvements are likely to increase the amount of internationally important intertidal habitat lost to coastal squeeze predicted by the SMP, a project-level HRA will be required. The HRA must demonstrate that it is possible to avoid an adverse effect on the internationally important habitat (including areas outside*

*of the designated sites known to be of importance for the relevant important species).  
 This could be achieved for example by avoiding an increased flood defence footprint.”*

## 7.5 Impact Assessment

7.5.1 Table 7.4 uses the conservation objectives for Portsmouth Harbour SPA/Ramsar as a checklist to determine whether adverse effects on ecological integrity are likely to occur as a result of the plan (adapted from English Nature, 2004).

## 7.6 Conclusions

7.6.1 It can be concluded that there will be no adverse effects as a result of coastal squeeze, and that the plan is Habitats Regulations compliant in this respect.

**Table 7.4: Assessment of effects on integrity, in view of the sites’ conservation objectives**

Has the Appropriate Assessment shown that there will be no negative impact on...?	Y/N
<b>Portsmouth Harbour SPA/Ramsar</b>	
The extent and distribution of the habitats of the qualifying features	<b>Yes</b>
Policy LP42 requires improved flood risk management measures implemented as part of proposed developments to take account of possible future losses to intertidal habitats, and gives an example of how this could be achieved within the development site. Development proposals complying with these requirements are unlikely to negatively affect the extent and distribution of the habitats of the qualifying features.	
The structure and function of the habitats of the qualifying features	<b>Yes</b>
Policy LP42 requires improved flood risk management measures implemented as part of proposed developments to take account of possible future losses to intertidal habitats, and gives an example of how this could be achieved within the development site. Development proposals complying with these requirements are unlikely to negatively affect the structure and function of the habitats of the qualifying features.	
The supporting processes on which the habitats of the qualifying features rely	<b>Yes</b>
Policy LP42 requires improved flood risk management measures implemented as part of proposed developments to take account of possible future losses to intertidal habitats, and gives an example of how this could be achieved within the development site. Development proposals complying with these requirements are unlikely to negatively affect the supporting processes on which the habitats of the qualifying features rely.	
The populations of the qualifying features	<b>Yes</b>
Policy LP42 requires improved flood risk management measures implemented as part of proposed developments to take account of possible future losses to intertidal habitats, and gives an example of how this could be achieved within the development site. Development proposals complying with these requirements are unlikely to negatively affect the populations of the qualifying features.	

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Has the Appropriate Assessment shown that there will be no negative impact on...?	Y/N
The distribution of the qualifying features within the site	Yes
<p>Policy LP42 requires improved flood risk management measures implemented as part of proposed developments to take account of possible future losses to intertidal habitats, and gives an example of how this could be achieved within the development site. Development proposals complying with these requirements are unlikely to negatively affect the distribution of the qualifying features within the site.</p>	

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## 8 Water Resources and Abstraction

### 8.1 Baseline Conditions

- 8.1.1 New homes require the development of new infrastructure, including the provision of fresh water supply. Southern Water and Portsmouth Water are the water companies with responsibility for water supply and treatment in South Hampshire; water supply in Gosport is provided by Portsmouth Water only. Most Portsmouth Water abstractions are linked to river flows, either directly at the Itchen via Gaters Mill, or indirectly through groundwater abstractions affecting the Hamble, Meon, Wallington, Ems and Lavant which have all (except for the Meon) been subject to Water Framework Directive (WFD) investigations during the AMP5 period (2010 – 2015).
- 8.1.2 The south east region has been declared an area of serious water stress, and this is illustrated by the Environment Agency's Review of Consents (RoC) under the Habitats Directive, completed in late 2007. The RoC process has determined sustainable levels of water abstraction and waste water discharge that can be met without adverse effects on the ecological integrity of European sites, including the marine habitats of the Solent system and freshwater habitats of its rivers. The chalk Rivers Test and Itchen, fed by groundwater, supply substantial quantities of potable water, and abstractions from these systems alter the surface water regime, in turn impacting on important ecological receptors. There is a further freshwater requirement in maintaining ecological integrity of the intertidal zones of coastal sites.
- 8.1.3 As a result of the RoC findings, Portsmouth Water accepted changes to its abstraction licences on the River Itchen (SAC), Havant and Bedhampton Springs and a group of Sussex licences (Chichester and Langstone Harbour SPA/Ramsar and Solent Maritime SAC) to protect European sites. Gosport's water supply is principally from the River Itchen, as well as sources in the Hamble and Meon valleys. These reductions are due to commence in 2015 and be introduced progressively over the following five years in accordance with a Memorandum of Understanding between the two water companies, the Environment Agency and the regulator, Ofwat.

### 8.2 Impact Source

- 8.2.1 The screening exercise identified the residential elements of the following policies as the drivers of increasing water consumption and therefore abstraction:
- LP4 Gosport Waterfront & Town Centre
  - LP5 Daedalus
  - LP6 Haslar Peninsular
  - LP7 Rowner
  - LP9A Other Allocations: Mixed Use
  - LP9D Other Allocations: Residential

### **8.3 Impact Pathway**

8.3.1 License changes proposed as a result of the 2007 Review of Consents to protect the integrity of the River Itchen were estimated to create a supply-demand deficit of around 100 megalitres per day (MI/d) across the sub-region (Atkins, 2009). Counterbalancing supply-demand measures were agreed by the two water companies and Environment Agency in order to maintain sufficient headroom while also allowing abstractions to be returned to sustainable levels. For Portsmouth Water, the counterbalancing measures contained within its Water Resources Management Plan (WRMP) 2010 Final Planning Solution included:

- ▶ A compulsory metering programme utilising Automatic Meter Reading (AMR) technology with seasonal tariffs over a 15 year period from 2015 to 2030;
- ▶ A programme of leakage savings delivering a 3MI/d leakage reduction between 2015 and 2020;
- ▶ The construction of a Washwater Recovery Plant at Farlington Water Treatment Works in 2017/18; and
- ▶ The development of Havant Thicket Winter Storage Reservoir, to maximise the surplus winter yield of its existing Havant and Bedhampton Springs abstraction licences which has undergone Habitats Regulations Assessment, between 2025 and 2035.

8.3.2 However, in its Final Draft WRMP for 2014 Portsmouth Water has concluded that the Havant Thicket reservoir is no longer required. Revisions to demand forecasting indicate that, whilst the Company's supply area will see an increase in both properties and population over the planning period, the growth is not as high as estimated in the previous plan. As a result of this and other factors, Portsmouth Water calculates that the Baseline Supply/Demand Balance under Average Conditions offers a surplus of supply over demand throughout the planning period; see Figure 8.1. A surplus also exists for the Baseline Peak Week and the Baseline Minimum Deployable Output scenarios.

8.3.3 As Portsmouth Water's baseline supply-demand balance does not forecast a deficit over the planning period for Average, Peak and Minimum Deployable Output scenarios, the company is not seeking to promote any options for new supply or demand management. Its existing abstractions will continue within agreed parameters that were designed to protect the integrity of European sites in the region.

### **8.4 Avoidance and Mitigation Integral to Plan**

8.4.1 While policy LP42 provides specific protection for European sites, the Local Plan includes measures to encourage the sustainable uses of water resources through policy LP39. These are summarised in Table 8.1.

### **8.5 Impact Assessment**

8.5.1 Table 8.2 uses the SAC and SPA conservation objectives as a checklist to determine whether adverse effects on ecological integrity are likely to occur as a result of the plan.

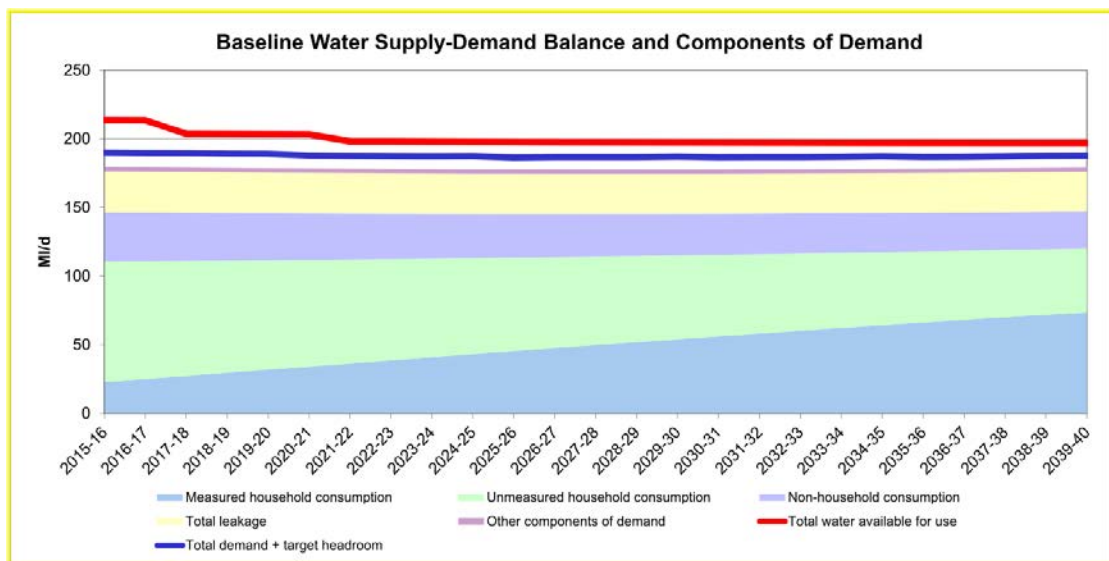


Figure 8.1: Portsmouth Waters’ Baseline Water Supply-Demand Balance (Source: Portsmouth Water, 2013)

Table 8.1: Local Plan policies on the sustainable use of resources

**Local Plan policies on the sustainable use of resources**

LP39: Water Resources

The Borough Council together with its partners will seek to manage the use of water resources through the following measures...

2. Development proposals will be permitted provided that the necessary water resources are already available. New residential development proposals should include measures that will reduce the consumption of water equivalent to 110 litres per person per day (including external water use)...

**8.6 Conclusions**

8.6.1 It can be concluded that there will be no adverse effects as a result of water abstraction, and that the plan is Habitats Regulations compliant in this respect.

**Table 8.2: Assessment of effects on integrity, in view of the sites' conservation objectives**

Has the Appropriate Assessment shown that there will be no negative impact on...?	Y/N
<b>River Itchen and Solent Maritime SACs</b>	
The extent and distribution of qualifying natural habitats and habitats of qualifying species	Yes
The extent and distribution of qualifying natural habitats and habitats of qualifying species are unlikely to be affected	
The structure and function of qualifying natural habitats and habitats of qualifying species	Yes
The structure and function of qualifying natural habitats and habitats of qualifying species are unlikely to be affected	
The supporting processes on which qualifying natural habitats and habitats of qualifying species rely	Yes
The supporting processes underpinning the integrity of the site are unlikely to be affected by the plan	
The populations of the qualifying species	Yes
The populations of the qualifying species are unlikely to be affected by the plan	
The distribution of the qualifying species within the site	Yes
The distribution of the qualifying species are unlikely to be affected by the plan	
<b>Portsmouth, Chichester &amp; Langstone Harbours, and Solent &amp; Southampton Water SPAs/Ramsars</b>	
The extent and distribution of the habitats of the qualifying features	Yes
The extent and distribution of the habitats used by the waders and wildfowl of the SPA/Ramsars are unlikely to be affected	
The structure and function of the habitats of the qualifying features	Yes
The structure and function of the habitats of the qualifying features are unlikely to be affected	
The supporting processes on which the habitats of the qualifying features rely	Yes
The supporting processes underpinning the habitats are unlikely to be affected by the plan	
The populations of the qualifying features	Yes
The population of waders and wildfowl that the SPA/Ramsars are unlikely to be affected by the plan	
The distribution of the qualifying features within the site	Yes
The distribution of waders and wildfowl within the SPA/Ramsars are unlikely to be affected by the plan	

## 9 Waste Water Pollution

### 9.1 Baseline Conditions

- 9.1.1 New homes require the development of new infrastructure, including the provision of connections to the sewerage and surface water drainage networks. Planning for the delivery of 3,060 new dwellings in Gosport borough will require sufficient capacity to convey and treat significant volumes of waste water, the impact of which is magnified when placed in the context of housing allocations across the South Hampshire sub-region. New residential development connections to waste water treatment infrastructure are the central driver of increasing waste water production within the Local Plan. Without suitable limits to the volume and pollutant load of consented discharges, adverse effects on European sites' ecological integrity are possible.
- 9.1.2 Southern Water is the water company with responsibility for waste water treatment in South Hampshire. Gosport borough falls almost entirely within the catchment area of Southern Water's Peel Common Waste Water Treatment Works (WWTW) near Stubbington. The ability of WWTWs to receive foul water is limited both by conveyance infrastructure capacity and technological capability to treat waste water to the quality standard required for safe release into aquatic and marine environments. This is illustrated by the Environment Agency's Review of Consents (RoC) under the Habitats Directive, completed in late 2007. The RoC process has determined sustainable levels of water abstraction and waste water discharge that can be met without adverse effects on the ecological integrity of European sites, including the marine habitats of the Solent system and freshwater habitats of its rivers.
- 9.1.3 Nutrient enrichment and in particular nitrogen (N) pollution can arise from wastewater treatment required in support of planned development. The Environment Agency has identified the effects of nutrient enrichment in the form of dense macroalgal mats occurring in the intertidal zone, which reduce dissolved oxygen content and impacts on food availability. The major sources of nitrogen to the Solent European marine sites are from:
- ▶ Coastal background seawater from the English Channel;
  - ▶ Direct rivers and streams discharging into the sites;
  - ▶ Indirect rivers and streams discharging elsewhere in the Solent;
  - ▶ Effluent discharges permitted by the EA.
- 9.1.4 The Agency states that nitrogen is the most important constraint affecting WWTWs in South Hampshire which discharge into the marine environment. The most important non-point sources of nitrogen are from coastal background seawater in the English Channel, natural and diffuse sources in rivers and streams and nitrogen bound within sediment. Future management of coastal inputs is not realistically achievable, but some limited management of agricultural diffuse sources is achievable as is the limitation of nitrogen concentrations in point source discharges (WWTWs).

- 9.1.5 Environmental capacity relates to the nature of the receiving water and its ability to accept the biological, solids, nutrient and metal loads contained within WWTW effluents. Effluent discharges are strictly regulated and acceptable loads are determined and consented by the Environment Agency. For all parameters monitored, the allowable discharge load is calculated and concentration limits set as a function of 'dry weather flow' (DWF). Hence effluent outflows that do not exceed their DWF consents can be taken as having no adverse effect on the ecological integrity of European sites. Taking into account the EA's no deterioration policy, the consented N concentration of Peel Common WWTW's effluent outfall is understood to be 9.74mg/l. This is within the 9-10mg/l N concentration that the Integrated Water Management Strategy for South Hampshire (Atkins, 2009) expected could reasonably be achievable.

## 9.2 Impact Source

- 9.2.1 The screening exercise identified the residential elements of the following policies as the drivers of increasing waste water pollution:
- LP4 Gosport Waterfront & Town Centre
  - LP5 Daedalus
  - LP6 Haslar Peninsular
  - LP7 Rowner
  - LP9A Other Allocations: Mixed Use
  - LP9D Other Allocations: Residential

## 9.3 Impact Pathway

- 9.3.1 The volume of waste water production can be managed through the appropriate spatial distribution of development (ie, locating new development within WWTW catchments that have capacity, or potential capacity available) and through decreasing the amount of freshwater return to the sewer system through water efficiency and demand management measures (such as metering of supply) and separation of foul and surface water drainage. Managing the pollutant load of discharges is achieved by upgrading treatment works to the Best Available Techniques (often with associated sustainability implications, such as increasing carbon emissions) and new advances in technology. Improved treatment may be necessary to accommodate consent changes required as a result of development planning and, where required, should be funded and in place prior to new residential connections to the WWTW catchment.
- 9.3.2 Natural England<sup>8</sup> recently met the Environment Agency (EA) to discuss water quality issues in Portsmouth Harbour and the wider Solent, and EA has shared preliminary results of investigations it has undertaken into the source of nutrients and macroalgal density. EA's preliminary results indicate that approximately 64% of nitrogen in Portsmouth Harbour as a whole comes from background marine sources, and 30% from rivers and diffuse sources. Only 6% is estimated to come from sewage treatment works within and outside of the harbour.
- 9.3.3 EA confirmed that macroalgal density across Portsmouth Harbour as a whole is below or close to targets for achieving favourable conservation status and good ecological potential under the

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<sup>8</sup> Letter dated 9 December 2013 to Chris Payne, Head of Planning Policy, Gosport Borough Council, from Charles Routh, Lead Adviser, Winchester Land Use Operations Team, Natural England

Water Framework Directive. However, there are some parts of the harbour (for example in the River Wallington arm) where dense algal mats remain, and where reducing the impact and meeting targets will be challenging. In addition other related targets such as the extent of algal mats are not being met. However, it is believed that improvements in these measures will be achieved in the long term as a result of continued action to tackle pollution sources including planned (2015) improvements in sewage treatment works which have a small but nonetheless important influence on water quality of Portsmouth Harbour.

- 9.3.4 Action to reduce nutrient inputs to the Solent, including from diffuse sources, is ongoing, and EA's investigations will help to target effort in the right places. The 2015 River Basin Management Plan will chart the path to good ecological potential, which includes restoring the European designated sites to favourable conservation status. In light of this, and the relatively small contribution that sewage treatment works make to total nitrogen loads in Portsmouth Harbour, Natural England's view is that projected household growth within the existing sewage discharge licences will not compromise the actions which are being taken forward to reduce nitrogen loads in Portsmouth Harbour and the Solent.
- 9.3.5 However, this advice only relates to growth which can be accommodated within current discharge licences. As part of the HRA process, there needs to be certainty that the planned development can be delivered without having an adverse effect on the integrity of European sites. Where growth cannot be accommodated within current discharge licences, a new or modified licence will be required, and it is the responsibility of the Environment Agency as competent authority for that licence to ensure its compliance with the Habitats Regulations. Natural England therefore advises that confirmation should be sought from the Environment Agency and Southern Water to understand their future plans for wastewater infrastructure and permitting, and the potential for alternative arrangements or mitigation to be made. If a new licence is required to support future growth, this would need to pass the tests of a Habitats Regulations Assessment to confirm there would be no adverse effect on the integrity of the Natura 2000 sites in Portsmouth Harbour and the Solent.
- 9.3.6 The Environment Agency<sup>9</sup> has recently re-confirmed that the Review of Consents work carried out for Peel Common WWTW took into account the full scale of residential growth planned for in the South East Plan (80,000 dwellings in South Hampshire). Around a third of the population growth associated with this was expected to come forward within the WWTW's catchment area (Atkins, 2009), including the two Strategic Development Areas at Hedge End and North of Fareham. Following revocation of the South East Plan, Hedge End is no longer being pursued and meanwhile the scale of residential growth North of Fareham has reduced from up to 10,000 to around 6,500 dwellings. The RoC concluded that further measures would be required alongside the licenced discharge consent changes, to protect and restore European sites in Portsmouth Harbour and the Solent, as described by Natural England above.
- 9.3.7 Hence growth proposed by Local Plan documents in the Peel Common's catchment area within these limits will be acceptable so long as Southern Water confirms that sufficient capacity is available within its consent. Southern Water has collected certified flow measurement data at Peel Common WWTW since 2008, and has reassessed the capacity available in the

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<sup>9</sup> Email dated 20 December 2013 from Laura Lax, Environment Agency, Solent and South Downs Team.

environmental permit. There is now evidence to demonstrate that nitrogen removal can be achieved to lower concentrations than previously estimated (i.e. lower than 9-10mg/l). On this basis, and assuming that the Agency would apply the no deterioration principle in the event that a new or amended permit is required, Southern Water considers that the environmental constraint identified in the PUSH IWMS at Peel Common WTW has been removed.

#### **9.4 Avoidance and Mitigation Integral to Plan**

- 9.4.1 While policy LP42 provides specific protection for European sites, the Local Plan includes measures to encourage the sustainable uses of water resources through policy LP39, which in turn will help to reduce the amount of waste water returned to the sewerage network. These are summarised in Table 9.1.

**Table 9.1: Local Plan policies on the sustainable use of resources**

##### **Local Plan policies on the sustainable use of resources**

###### LP39: Water Resources

The Borough Council together with its partners will seek to manage the use of water resources through the following measures...

2. Development proposals will be permitted provided that the necessary water resources are already available. New residential development proposals should include measures that will reduce the consumption of water equivalent to 110 litres per person per day (including external water use)...

#### **9.5 Impact Assessment**

- 9.5.1 Table 9.2 uses the SAC and SPA conservation objectives as a checklist to determine whether adverse effects on ecological integrity are likely to occur as a result of the plan (adapted from English Nature, 2004).

#### **9.6 Conclusions**

- 9.6.1 It can be concluded that the Local Plan will not have adverse effects on the ecological integrity of any European site as a result of waste water pollution, and that the plan is Habitats Regulations compliant in this respect. No further recommendations are necessary.



**Table 9.2: Assessment of effects on integrity, in view of the sites' conservation objectives**

<b>Has the Appropriate Assessment shown that there will be no negative impact on...?</b>	<b>Y/N</b>
<b>Solent Maritime SAC</b>	
The extent and distribution of qualifying natural habitats and habitats of qualifying species	<b>Yes</b>
The extent and distribution of qualifying natural habitats and habitats of qualifying species are unlikely to be affected	
The structure and function of qualifying natural habitats and habitats of qualifying species	<b>Yes</b>
The structure and function of qualifying natural habitats and habitats of qualifying species are unlikely to be affected	
The supporting processes on which qualifying natural habitats and habitats of qualifying species rely	<b>Yes</b>
The supporting processes underpinning the integrity of the site are unlikely to be affected by the plan	
The populations of the qualifying species	<b>Yes</b>
The populations of the qualifying species are unlikely to be affected by the plan	
The distribution of the qualifying species within the site	<b>Yes</b>
The distribution of the qualifying species are unlikely to be affected by the plan	
<b>Portsmouth, Chichester &amp; Langstone Harbours, and Solent &amp; Southampton Water SPAs/Ramsars</b>	
The extent and distribution of the habitats of the qualifying features	<b>Yes</b>
The extent and distribution of the habitats used by the waders and wildfowl of the SPA/Ramsars are unlikely to be affected	
The structure and function of the habitats of the qualifying features	<b>Yes</b>
The structure and function of the habitats of the qualifying features are unlikely to be affected	
The supporting processes on which the habitats of the qualifying features rely	<b>Yes</b>
The supporting processes underpinning the habitats are unlikely to be affected by the plan	
The populations of the qualifying features	<b>Yes</b>
The population of waders and wildfowl that the SPA/Ramsars are unlikely to be affected by the plan	
The distribution of the qualifying features within the site	<b>Yes</b>
The distribution of waders and wildfowl within the SPA/Ramsars are unlikely to be affected by the plan	

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## 10 Summary and Conclusions

### 10.1 Summary of Findings

- 10.1.1 This report presents the findings of the Habitats Regulations Assessment for the Gosport Borough Local Plan (Pre-Submission Version). It updates earlier work carried out in support of the Consultation Draft of the Gosport Borough Local Plan (December 2012) and Draft Core Strategy (2009) by re-screening each of the policies for likely significant effects on nearby European sites, and incorporating new evidence within the Appropriate Assessment to help determine whether there will be any adverse effects on ecological integrity.
- 10.1.2 In summary, the assessment of the Proposed Submission Local Plan concludes that there will be no adverse effects on the ecological integrity of any European site, and that the plan is compliant with the Habitats Regulations.

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# Appendix I: Revised Screening Matrix

Please see insert.

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			SAC					SPA				Ramsar			
			Butser Hill	River Ichen	Solent and Isle of Wight Lagoons	Solent Maritime	The New Forest	Chichester and Langstone Harbours	Portsmouth Harbour	Solent and Southampton Water	The New Forest	Chichester and Langstone Harbours	Portsmouth Harbour	Solent and Southampton Water	The New Forest
<b>Gosport Borough Local Plan</b>			<b>Likely Significant Effect</b>												
<b>ID Sustainable Development</b>															
LP1	Sustainable Development	-	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1
LP2	Infrastructure	-	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1
<b>ID Spatial Strategy</b>															
LP3	Spatial Strategy	-	A5	A5	A5	A5	A5	A5	A5	A5	A5	A5	A5	A5	A5
<b>ID Regenerating Gosport through the delivery of High Quality Sites</b>															
LP4	The Gosport Waterfront and Town Centre	Atmospheric pollution, disturbance (strategic & site-specific), flood risk, water (resources & waste)	A4	D2	D2	D2	A4	D2	D2	D2	D2	D2	D2	D2	A4
LP5	Daedalus	Atmospheric pollution, disturbance (strategic & site-specific), water (resources & waste)	A4	D2	D2	D2	A4	D2	D2	D2	D2	D2	D2	D2	A4
LP6	Haslar Peninsula	Atmospheric pollution, disturbance (strategic & site-specific), flood risk, water (resources & waste)	A4	D2	D2	D2	A4	D2	D2	D2	D2	D2	D2	D2	A4
LP7	Rowner	Atmospheric pollution, disturbance (strategic & site-specific), water (resources & waste)	A4	D2	D2	D2	A4	D2	D2	D2	D2	D2	D2	D2	A4
LP8	Alver Valley	Disturbance (site-specific)	A3	A3	A3	A3	A3	D2	D2	D2	A3	D2	D2	D2	A3
LP9A	Allocations outside of Regeneration Areas: Mixed Use site	Atmospheric pollution, disturbance (strategic & site-specific), flood risk, water (resources & waste)	A4	D2	D2	D2	A4	D2	D2	D2	D2	D2	D2	D2	A4
LP9B	Allocations outside of Regeneration Areas: Economic Development Sites	Atmospheric pollution, disturbance (site-specific)	A4	A4	A4	A4	A4	D2	D2	D2	A4	D2	D2	D2	A4
LP9C	Allocations outside of Regeneration Areas: Employment sites	Atmospheric pollution, disturbance (site-specific)	A4	D2	D2	D2	A4	D2	D2	D2	D2	D2	D2	D2	A4
LP9D	Allocations outside of Regeneration Areas: Residential sites	Atmospheric pollution, disturbance (strategic & site-specific), flood risk, water (resources & waste)	A4	D2	D2	D2	A4	D2	D2	D2	D2	D2	D2	D2	A4
LP9E	Allocations outside of Regeneration Areas: Leisure, Community uses and Open Spaces	Atmospheric pollution, disturbance (site-specific)	A4	A4	A4	A4	A4	D2	D2	D2	A4	D2	D2	D2	A4
<b>ID Enhancing Sense of Place: Design and Heritage</b>															
LP10	Design	-	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1
LP11	Designated Assets: Listed Buildings, Registered Parks and Gardens and Scheduled Ancient Monuments	-	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1
LP12	Designated Assets: Conservation Areas	-	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1
LP13	Locally Important Heritage Assets	-	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1
LP14	Marine Parade Area of Special Character	-	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1

			SAC					SPA				Ramsar			
			Butser Hill	River Ichen	Solent and Isle of Wight Lagoons	Solent Maritime	The New Forest	Chichester and Langstone Harbours	Portsmouth Harbour	Solent and Southampton Water	The New Forest	Chichester and Langstone Harbours	Portsmouth Harbour	Solent and Southampton Water	The New Forest
<b>Gosport Borough Local Plan</b>			<b>Likely Significant Effect</b>												
LP15	Safeguarded Areas	-	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1
<b>ID Delivering a Prosperous Economy</b>															
LP16	Employment Land	-	A5	A5	A5	A5	A5	A5	A5	A5	A5	A5	A5	A5	A5
LP17	Skills	-	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1
LP18	Tourism	-	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1
LP19	Marinas and Moorings	-	A1/4	A1/4	A1/4	A1/4	A1/4	A1/4	A1	A1	A1/4	A1/4	A1	A1	A1/4
LP20	Information and Communication Technology	-	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1
<b>ID Improving Transport and Accessibility</b>															
LP21	Improving Transport Infrastructure	-	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1
LP22	Accessibility to New Development	-	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1
LP23	Layout of Sites and Parking	-	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1
<b>ID Creating Quality Neighbourhoods</b>															
LP24	Housing	-	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1
LP25	Park Homes and Residential Caravans	-	A4	A4	A4	A4	A4	A4	A4	A4	A4	A4	A4	A4	A4
LP26	Gypsies, Travellers and Travelling Showpeople	-	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1
LP27	Principal, District and Neighbourhood Centres	-	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1
LP28	Uses in Centres	-	A1/4	A1/4	A1/4	A1/4	A1/4	A1/4	A1/4	A1/4	A1/4	A1/4	A1/4	A1/4	A1/4
LP29	Proposals for Retail and other Town Centre Uses outside of Centres	-	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1
LP30	Local Shops outside of Defined Centres	-	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1
LP31	Commercial frontages outside of Defined Centres	-	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1
LP32	Community, Cultural and Built Leisure Facilities	-	A1/4	A1/4	A1/4	A1/4	A1/4	A1/4	A1/4	A1/4	A1/4	A1/4	A1/4	A1/4	A1/4

Gosport Borough Local Plan			SAC					SPA				Ramsar			
			Butser Hill	River Ichen	Solent and Isle of Wight Lagoons	Solent Maritime	The New Forest	Chichester and Langstone Harbours	Portsmouth Harbour	Solent and Southampton Water	The New Forest	Chichester and Langstone Harbours	Portsmouth Harbour	Solent and Southampton Water	The New Forest
LP33	Cemetery Provision	-	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	
LP34	Provision of New Open Space and Improvements to Existing Open Space	Disturbance (site-specific)	A1	A1	A1	A1	A1	D2	D2	D2	A1	D2	D2	D2	A1
LP35	Protection of Existing Open Space	-	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	
LP36	Allotments	-	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	
LP37	Access to the Coast & Countryside	-	A1/2	A1/2	A1/2	A1/2	A1/2	A1/2	A1/2	A1/2	A1/2	A1/2	A1/2	A1/2	
ID Creating a sustainable environment															
LP38	Energy Resources	-	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	
LP39	Water Resources	-	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	
LP40	Waste and Material Resources	-	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	
LP41	Green Infrastructure	-	A1/2	A1/2	A1/2	A1/2	A1/2	A1/2	A1/2	A1/2	A1/2	A1/2	A1/2	A1/2	
LP42	International and Nationally Important Habitats	-	A2	A2	A2	A2	A2	A2	A2	A2	A2	A2	A2	A2	
LP43	Locally Designated Nature Conservation Sites	-	A2	A2	A2	A2	A2	A2	A2	A2	A2	A2	A2	A2	
LP44	Protecting Species and Other Features of Nature Conservation Importance	-	A2	A2	A2	A2	A2	A2	A2	A2	A2	A2	A2	A2	
LP45	Flood Risk and Coastal Erosion	-	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	
LP46	Pollution Control	-	A3	A3	A3	A3	A3	A3	A3	A3	A3	A3	A3	A3	
LP47	Contamination and Unstable Land	-	A3	A3	A3	A3	A3	A3	A3	A3	A3	A3	A3	A3	
LP48	Hazardous Substances	-	A3	A3	A3	A3	A3	A3	A3	A3	A3	A3	A3	A3	

		SAC					SPA				Ramsar		
		Butser Hill	River Ichen	Solent and Isle of Wight Lagoons	Solent Maritime	The New Forest	Chichester and Langstone Harbours	Portsmouth Harbour	Solent and Southampton Water	The New Forest	Chichester and Langstone Harbours	Portsmouth Harbour	Solent and Southampton Water
<b>Gosport Borough Local Plan</b>		<b>Likely Significant Effect</b>											
<b>Assessment Key</b>													
<b>Category A: No negative effect</b>													
A1	Options / policies that will not themselves lead to development e.g. because they relate to design or other qualitative criteria for development, or they are not a land use planning policy.												
A2	Options / policies intended to protect the natural environment, including biodiversity.												
A3	Options / policies intended to conserve or enhance the natural, built or historic environment, where enhancement measures will not be likely to have any negative effect on a European Site.												
A4	Options / policies that positively steer development away from European sites and associated sensitive areas.												
A5	Options / policies that would have no effect because development is implemented through later policies in the same plan, which are more specific and therefore more appropriate to assess for their effects on European Sites.												
<b>Category B: No significant effect</b>													
B	Options / policies that could have an effect, but the likelihood is there would be no significant negative effect on a European site either alone or in combination with other elements of the same plan, or other plans or projects.												
<b>Category C: Likely significant effect alone</b>													
C1	The option, policy or proposal could directly affect a European site because it provides for, or steers, a quantity or type of development onto a European site, or adjacent to it.												
C2	The option / policy could indirectly affect a European site e.g. because it provides for, or steers, a quantity or type of development that may be ecologically, hydrologically or physically connected to it or increase disturbance.												
C3	Proposals for a magnitude of development that, no matter where it was located, the development would be likely to have a significant effect on a European site.												
C4	An option / policy that makes provision for a quantity / type of development but the effects are uncertain because its detailed location is to be selected following consideration of options in a later, more specific plan.												
C5	Options / policies for developments or infrastructure projects that could block alternatives for the provision of other development in the future, that may lead to adverse effects on European sites, which would otherwise be avoided.												
C6	Options, policies or proposals which are to be implemented in due course - if implemented in one or more particular ways, the proposal could possibly have a significant effect on a European site.												
C7	Any other options, policies or proposals that would be vulnerable to failure under the Habitats Regulations at project assessment stage; to include them in the plan would be regarded by the EC as 'faulty planning'.												
C8	Any other proposal that may have an adverse effect on a European site, which might try to pass the tests of HRA at project level by arguing that the plan provides IROPI to justify its consent despite a negative assessment.												
<b>Category D: Likely significant effects in combination</b>													
D1	The option, policy or proposal alone would not be likely to have significant effects but if its effects are combined with the effects of other policies within the same plan the cumulative effects would be likely to be significant.												
D2	Options, policies or proposals that alone would not be likely to have significant effects but if their effects are combined with the effects of other plans or projects, the combined effects would be likely to be significant.												
D3	Options or proposals that are, or could be, part of a programme or sequence of development delivered over a period, where the implementation of the later stages could have a significant effect on European sites.												
?	Uncertain effects because the issue/option currently lacks detail. The screening assessment will be re-visited as more detail becomes available.												

## **Appendix II: European Site Information**

Please see insert.

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Site Characteristics for Butser Hill SAC			
Location / NGR / Area	Hampshire	50 58 18 N, 00 58 48 W	238.66 ha
Coincident Sites	Butser Hill SSSI		
Broad Habitat Classes	Heath. Scrub. Maquis and garrigue. Phygrana (0.1%) Dry grassland. Steppes (70%) Broad-leaved deciduous woodland (5%) Coniferous woodland (15%) Mixed woodland (9.9%)		
Ecological Description	Butser Hill is situated on the east Hampshire chalk which forms part of the South Downs. Much of the site consists of <i>Festuca ovina</i> – <i>Avenula pratense</i> grassland. The site has a varied range of slope gradients and aspects which has a strong influence on the vegetation composition. A particular feature of the site is its lower plant assemblage. It has the richest terricolous lichen flora of any chalk grassland site in England, and also supports the distinctive <i>Scapanietum asperae</i> or southern hepatic mat association of leafy liverworts and mosses on north-facing chalk slopes. This association is very rare in the UK and Butser Hill supports the largest known example. The site exhibits various transitions between semi-natural dry grassland, chalk heath, mixed scrub and yew <i>Taxus baccata</i> woods. The combes of the south-east flank of Butser Hill support dense yew woodland in association with scrub and chalk grassland. The yew is regenerating into the grassland and shows the classic interaction of these habitats in relation to grazing pressure.		
Qualifying Features * Denotes priority feature	Semi-natural dry grasslands and scrubland facies: on calcareous substrates ( <i>Festuco-Brometalia</i> )	Annex I Habitat	
	<i>Taxus baccata</i> woods of the British Isles *	Annex I Habitat	

<b>Conservation Objectives</b>	<p>With regard to the natural habitats and/or species for which the site has been designated (the Qualifying Features listed above); Avoid the deterioration of the qualifying natural habitats and the habitats of qualifying species, and the significant disturbance of those qualifying species, ensuring the integrity of the site is maintained and the site makes a full contribution to achieving Favourable Conservation Status of each of the qualifying features.</p> <p>Subject to natural change, to maintain or restore:</p> <ul style="list-style-type: none"><li>▶ The extent and distribution of qualifying natural habitats and habitats of qualifying species;</li><li>▶ The structure and function (including typical species) of qualifying natural habitats and habitats of qualifying species;</li><li>▶ The supporting processes on which qualifying natural habitats and habitats of qualifying species rely;</li><li>▶ The populations of qualifying species;</li><li>▶ The distribution of qualifying species within the site.</li></ul>
<b>Condition Status and Trends</b>	<p>There is one coincident or adjacent SSSI site of mostly favourable status; Butser Hill SSSI: 10 units consisting of; 92.13% Favourable and 7.87% Unfavourable recovering.</p>
<b>Key Environmental Conditions Supporting Site Integrity</b>	<ul style="list-style-type: none"><li>▶ Maintenance of grazing</li><li>▶ Minimal air pollution – nitrogen deposition may cause reduction in diversity, sulphur deposition can cause acidification</li><li>▶ Absence of direct fertilisation</li><li>▶ Well-drained soils</li><li>▶ No spray-drift (i.e. eutrophication) from surrounding intensive arable land</li></ul>

Sources:

Joint Nature Conservation Committee, Protected Sites Information, 2012  
Natural England, European Site Conservation Objectives, 2012  
Habitats Directive, Annex I, 1992  
Natural England, Nature on the Map, 2012  
DEFRA, Magic, 2012

Site Characteristics for River Itchen SAC			
Location / NGR / Area	City of Southampton, Hampshire	50 57 14 N, 01 20 05 W	309.26 ha
Coincident Sites	River Itchen SSSI		
Broad Habitat Classes	Inland water bodies (standing water, running water) (40%) Bogs. Marshes. Water fringed vegetation. Fens (27%) Humid grassland. Mesophile grassland (19%) Improved grassland (1%) Broad-leaved deciduous woodland (10%) Mixed woodland (2%) Non-Forest areas cultivated with woody plants (including orchards, groves, vineyards, (1%)		
Ecological Description	<p>The Itchen is a classic example of a sub-type 1 chalk river. The river is dominated throughout by aquatic <i>Ranunculus spp.</i> The headwaters contain pond water-crowfoot <i>Ranunculus peltatus</i>, while two <i>Ranunculus</i> species occur further downstream: stream water-crowfoot <i>R. penicillatus ssp. pseudofluitans</i>, a species especially characteristic of calcium-rich rivers, and river water-crowfoot <i>R. fluitans</i>.</p> <p>Strong populations of Southern damselfly <i>Coenagrion mercuriale</i> occur here, estimated to be in the hundreds of individuals. The site in central southern England represents one of the major population centres in the UK. It also represents a population in a managed chalk-river flood plain, an unusual habitat for this species in the UK, rather than on heathland.</p> <p>The Itchen is a classic chalk river that supports high densities of bullhead <i>Cottus gobio</i> throughout much of its length. The river provides good water quality, extensive beds of submerged plants that act as a refuge for the species, and coarse sediments that are vital for spawning and juvenile development.</p>		
Qualifying Features	Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitricho-Batrachion</i> vegetation	Annex I Habitat	
	Southern damselfly <i>Coenagrion mercuriale</i>	Annex II Species	
	Bullhead <i>Cottus gobio</i>	Annex II Species	

	White-clawed (or Atlantic stream) crayfish <i>Austropotamobius pallipes</i>	Annex II Species
	Brook lamprey <i>Lampetra planeri</i>	Annex II Species
	Atlantic salmon <i>Salmo salar</i>	Annex II Species
	Otter <i>Lutra lutra</i>	Annex II Species
<b>Conservation Objectives</b>	<p>With regard to the natural habitats and/or species for which the site has been designated (the Qualifying Features listed above); Avoid the deterioration of the qualifying natural habitats and the habitats of qualifying species, and the significant disturbance of those qualifying species, ensuring the integrity of the site is maintained and the site makes a full contribution to achieving Favourable Conservation Status of each of the qualifying features.</p> <p>Subject to natural change, to maintain or restore:</p> <ul style="list-style-type: none"> <li>▶ The extent and distribution of qualifying natural habitats and habitats of qualifying species;</li> <li>▶ The structure and function (including typical species) of qualifying natural habitats and habitats of qualifying species;</li> <li>▶ The supporting processes on which qualifying natural habitats and habitats of qualifying species rely;</li> <li>▶ The populations of qualifying species;</li> <li>▶ The distribution of qualifying species within the site.</li> </ul>	
<b>Condition Status and Trends</b>	<p>There is one coincident or adjacent SSSI sites of mostly favourable status;</p> <p>River Itchen SSSI: 108 units consisting of; 3.76% Favourable, 53.79% unfavourable recovering, 29.46% unfavourable no change and 12.98% unfavourable declining.</p>	

**Key Environmental  
 Conditions  
 Supporting Site  
 Integrity**

- ▶ Maintenance of flow velocities - low flows interact with nutrient inputs from point sources to produce localised increases in filamentous algae and nutrient tolerant macrophytes at the expense of Ranunculus
- ▶ Low levels of siltation
- ▶ Unpolluted water and low nutrient inputs
- ▶ Maintenance of grazing pressure is essential for Southern damselfly habitat

**Sources:**

Joint Nature Conservation Committee, Protected Sites Information, 2012  
 Natural England, European Site Conservation Objectives, 2012  
 Habitats Directive, Annex I, 1992  
 Natural England, Nature on the Map, 2012  
 DEFRA, Magic, 2012

**Site Characteristics for Solent & Isle of Wight Lagoons SAC**

<b>Location / NGR / Area</b>	City of Portsmouth; Hampshire; Isle of Wight	50 46 30 N, 01 08 13 W	36.24 ha
<b>Coincident Sites</b>	Gilkicker lagoon Site of Special Scientific Interest (SSSI), Hurst Castle and Lymington River Estuary SSSI, Brading Marshes to St Helen's Ledges SSSI, Langstone Harbour SSSI Solent and Southampton Water (Special Protection Area) SPA and Ramsar, Chichester and Langstone Harbours SPA and Ramsar.		
<b>Broad Habitat Classes</b>	Tidal rivers. Estuaries. Mud flats. Sand flats. Lagoons (including saltwork basins) (91.7%) Salt marshes. Salt pastures. Salt steppes (8.3%)		

<p><b>Ecological Description</b></p>	<p>The Solent on the south coast of England encompasses a series of Coastal lagoons, including percolation, isolated and sluiced lagoons. The site includes a number of lagoons in the marshes in the Keyhaven – Pennington area, at Farlington Marshes in Chichester Harbour, behind the sea-wall at Bembridge Harbour and at Gilkicker, near Gosport. The lagoons show a range of salinities and substrates, ranging from soft mud to muddy sand with a high proportion of shingle, which support a diverse fauna including large populations of three notable species: the nationally rare foxtail stonewort <i>Lamprothamnium papulosum</i>, the nationally scarce lagoon sand shrimp <i>Gammarus insensibilis</i>, and the nationally scarce starlet sea anemone <i>Nematostella vectensis</i>. The lagoons in Keyhaven – Pennington Marshes are part of a network of ditches and ponds within the saltmarsh behind a sea-wall. Farlington Marshes is an isolated lagoon in marsh pasture that, although separated from the sea by a sea-wall, receives sea water during spring tides. The lagoon holds a well-developed low-medium salinity insect-dominated fauna. Gilkicker Lagoon is a sluiced lagoon with marked seasonal salinity fluctuation and supports a high species diversity. The lagoons at Bembridge Harbour have formed in a depression behind the sea-wall and sea water enters by percolation. Species diversity in these lagoons is high and the fauna includes very high densities of <i>N. vectensis</i>.</p>	
<p><b>Qualifying Features</b>                  * Denotes priority feature</p>	<p>Coastal lagoons *</p>	<p>Annex I habitat</p>
<p><b>Conservation Objectives</b></p>	<p>With regard to the natural habitats and/or species for which the site has been designated (the Qualifying Features listed above);                  Avoid the deterioration of the qualifying natural habitats and the habitats of qualifying species, and the significant disturbance of those qualifying species, ensuring the integrity of the site is maintained and the site makes a full contribution to achieving Favourable Conservation Status of each of the qualifying features.                  Subject to natural change, to maintain or restore:</p> <ul style="list-style-type: none"> <li>▶ The extent and distribution of qualifying natural habitats and habitats of qualifying species;</li> <li>▶ The structure and function (including typical species) of qualifying natural habitats and habitats of qualifying species;</li> <li>▶ The supporting processes on which qualifying natural habitats and habitats of qualifying species rely;</li> <li>▶ The populations of qualifying species;</li> <li>▶ The distribution of qualifying species within the site.</li> </ul>	

<b>Condition Status and Trends</b>	<p>There are 4 coincident or adjacent SSSI sites of varying statuses;</p> <p>Gilkicker Lagoon SSSI: A single unit; 100% favourable</p> <p>Hurst Castle and Lymington River Estuary SSSI: 34 units of varying statuses; 27.04% of the area is favourable, 70.09% unfavourable recovering and 2.87% unfavourable declining. There are a number of coincidental units containing saline lagoons, all are of favourable condition.</p> <p>Brading Marshes To St. Helen's Ledges SSSI: 59 units of varying statuses; 50.57% of the area is favourable, 39.79% unfavourable recovering and 9.64% unfavourable declining. There are a small number of coincidental units, all are of favourable condition.</p> <p>Langstone Harbour SSSI: 13 units of varying statuses; 8.96% of the area is favourable, 90.60% unfavourable recovering and 0.45% unfavourable declining. The coincidental areas characterised by saline lagoon is of favourable condition.</p>
<b>Key Environmental Conditions Supporting Site Integrity</b>	<p>Various factors are required to maintain site integrity;</p> <ul style="list-style-type: none"><li>▶ Salinity is the key water quality parameter for these lagoons. Therefore the relative balance of saltwater to freshwater inputs is critical. At the moment, most of these lagoons are considered to have a salt concentration that is below the desirable level (15 – 40%)</li><li>▶ Sufficient space between the site and development to allow for managed retreat of intertidal habitats and avoid coastal squeeze</li><li>▶ No dredging or land-claim of coastal habitats</li><li>▶ Unpolluted water</li><li>▶ Absence of nutrient enrichment</li><li>▶ Absence of non-native species</li></ul>

Sources:

Joint Nature Conservation Committee, Protected Sites Information, 2012  
Natural England, European Site Conservation Objectives, 2012  
Habitats Directive, Annex I, 1992  
Natural England, Nature on the Map, 2012 (Feb)  
DEFRA, Magic, 2012

<b>Site Characteristics for Solent Maritime SAC</b>		
<b>Location / NGR / Area</b>	City of Portsmouth; City of Southampton; Hampshire; Isle of Wight; West Sussex	50 47 47 N, 00 55 40 W  11325.09 ha
<b>Coincident Sites</b>	<p>Chichester Harbour SSSI, Bracklesham Bay SSSI, Yar Estuary SSSI, Hurst Castle and Lymington River Estuary SSSI, the New Forest SSSI, King's Quay Shore SSSI, Upper Hamble Estuary and Woods SSSI, Eling and Bury Marshes SSSI, Lincegrove and Hackett's Marshes SSSI, Lower Test Valley SSSI, Bouldnor And Hamstead Cliffs SSSI, Hythe to Calshot Marshes SSSI, Sinah Common SSSI, Lee-on-the Solent to Itchen Estuary SSSI, Newtown Harbour SSSI, Langstone Harbour SSSI, Medina Estuary SSSI, Thorness Bay SSSI, Warblington Meadow SSSI and North Solent SSSI.</p> <p>Solent and Southampton Water SPA and Ramsar, Chichester and Langstone Harbours SPA and Ramsar</p>	
<b>Broad Habitat Classes</b>	<p>Marine areas. Sea inlets (14%)</p> <p>Tidal rivers. Estuaries. Mud flats. Sand flats. Lagoons (including saltwork basins) (59%)</p> <p>Salt marshes. Salt pastures. Salt steppes (23%)</p> <p>Coastal sand dunes. Sand beaches. Machair (0.5%)</p> <p>Shingle. Sea cliffs. Islets (3%)</p> <p>Broad-leaved deciduous woodland (0.5%)</p>	
<b>Ecological Description</b>	<p>The Solent encompasses a major estuarine system on the south coast of England with four coastal plain estuaries (Yar, Medina, King's Quay Shore, Hamble) and four bar-built estuaries (Newtown Harbour, Beaulieu, Langstone Harbour, Chichester Harbour). The site is the only one in the series to contain more than one physiographic sub-type of estuary and is the only cluster site. The Solent and its inlets are unique in Britain and Europe for their hydrographic regime of four tides each day, and for the complexity of the marine and estuarine habitats present within the area. Sediment habitats within the estuaries include extensive estuarine flats, often with intertidal areas supporting eelgrass <i>Zostera spp.</i> and green algae, sand and shingle spits, and natural shoreline transitions. The mudflats range from low and variable salinity in the upper reaches of the estuaries to very sheltered almost fully marine muds in Chichester and Langstone Harbours. Unusual features include the presence of very rare sponges in the Yar estuary and a sandy 'reef' of the polychaete <i>Sabellaria spinulosa</i> on the steep eastern side of the entrance to Chichester Harbour.</p>	



Solent Maritime is the only site for smooth cord-grass *Spartina alterniflora* in the UK and is one of only two sites where significant amounts of small cord-grass *S. maritima* are found. It is also one of the few remaining sites for Townsend's cord-grass *S. x townsendii* and holds extensive areas of common cord-grass *Spartina anglica*, all four taxa thus occurring here in close proximity. It has additional historical and scientific interest as the site where *S. alterniflora* was first recorded in the UK (1829) and where *S. x townsendii* and, later, *S. anglica* first occurred.

The Solent contains the second-largest aggregation of Atlantic salt meadows in south and south-west England. Solent Maritime is a composite site composed of a large number of separate areas of saltmarsh. In contrast to the Severn estuary, the salt meadows at this site are notable as being representative of the ungrazed type and support a different range of communities dominated by sea-purslane *Atriplex portulacoides*, common sea-lavender *Limonium vulgare* and thrift *Armeria maritima*. As a whole the site is less truncated by man-made features than other parts of the south coast and shows rare and unusual transitions to freshwater reedswamp and alluvial woodland as well as coastal grassland. Typical Atlantic salt meadow is still widespread in this site, despite a long history of colonisation by cord-grass *Spartina spp.*

**Qualifying Features**  
 \* Denotes priority feature

Sandbanks which are slightly covered by sea water all the time	Annex I habitat
Mudflats and sandflats not covered by seawater at low tide	Annex I habitat
Coastal lagoons *	Annex I habitat
Annual vegetation of drift lines	Annex I habitat
Perennial vegetation of stony banks	Annex I habitat
Salicornia and other annuals colonising mud and sand	Annex I habitat
Shifting dunes along the shoreline with <i>Ammophila arenaria</i> ('white dunes')	Annex I habitat
Desmoulin's whorl snail <i>Vertigo moulinsiana</i>	Annex II species

### Conservation Objectives

With regard to the natural habitats and/or species for which the site has been designated (the Qualifying Features listed above);  
Avoid the deterioration of the qualifying natural habitats and the habitats of qualifying species, and the significant disturbance of those qualifying species, ensuring the integrity of the site is maintained and the site makes a full contribution to achieving Favourable Conservation Status of each of the qualifying features.

Subject to natural change, to maintain or restore:

- ▶ The extent and distribution of qualifying natural habitats and habitats of qualifying species;
- ▶ The structure and function (including typical species) of qualifying natural habitats and habitats of qualifying species;
- ▶ The supporting processes on which qualifying natural habitats and habitats of qualifying species rely;
- ▶ The populations of qualifying species;
- ▶ The distribution of qualifying species within the site.

### Condition Status and Trends

There are 20 coincidental or adjacent SSSI sites of varying statuses;

Chichester Harbour SSSI: 43 units; 22.09% of the area is favourable, 77.67% unfavourable recovering and 0.24% unfavourable no change. Unfavourable recovering areas are mainly units affected significantly by sea level rise and 'coastal squeeze' as much of the units' area is backed by hard sea defences so habitats are unable to retreat landward as levels rise. Recovery is through creation of compensatory habitat and coastal re-alignment at Medmerry. Some unfavourable units including the 'unfavourable no change' units are impacted by diffuse pollution creating excessive nutrients, characterised by green algae.

Bracklesham Bay SSSI: 4 units; 64.95% of the area is favourable, 29.54% unfavourable recovering and 5.51% unfavourable no change. The single unit which is 'unfavourable no change' is in poor condition due to continual sea defence works. However, this unit is part of the Medmerry realignment and will undergo significant change in the near future which will allow natural processes to resume and the possibility of development of vegetated shingle communities.

Yar Estuary SSSI: 30 units; 83.15% of the area is favourable and 16.85% unfavourable recovering. Most of the unfavourable area is affected by sea level rise and 'coastal squeeze'. Much of the unit is backed by hard sea defences so that the habitats are unable to retreat landward as levels rise. Changes in water level may also be having adverse impacts on the distribution and extent of biotopes associated with the intertidal sediments. The issue is being addressed through the creation of compensatory habitat and coastal re-alignment at Medmerry

Hurst Castle and Lymington River Estuary SSSI: 34 units; 27.04% of the area is favourable, 70.09% unfavourable recovering and 2.87% unfavourable declining. Inappropriate sea defences along the eastern part of the broadleaved, mixed and yew woodland - lowland unit have caused loss of vegetation along a 5 metre wide strip of one unfavourable declining unit and another is experiencing loss of intertidal habitat due to natural erosion. Operation of ferries is accelerating this erosion.

New Forest SSSI: 582 units; 45.53% of the area is favourable, 53.22% unfavourable recovering, 0.43% unfavourable no change, 0.81% unfavourable declining and 0.01% destroyed/part destroyed. Only small areas of the SSSI overlap with the SAC.

King's Quay Shore SSSI: 30 units; 76.99% of the area is favourable, 20.95% unfavourable recovering, 1.86% unfavourable declining and 0.21% destroyed / part destroyed. Unfavourable declining and destroyed areas are woodland areas affected by inappropriate woodland management.

Upper Hamble Estuary and Woods SSSI: 16 units; 85.94% of the area is favourable, 11.31% unfavourable recovering and 2.75% unfavourable no change. Unfavourable unit is a broadleaved, mixed woodland area dominated by non-native species.

Eling and Bury Marshes SSSI: 4 units; 11.46% of the area is favourable and 88.54% unfavourable recovering. Unfavourable recovering units are affected by diffuse pollution, which is being addressed by through the Solent DWP action, and by sea level rise creating 'coastal squeeze' as much of the unit is backed by hard sea defences. However, the issue is being addressed through the creation of compensatory habitat and coastal re-alignment at Medmerry.

Lincegrove and Hackett's Marshes SSSI: 3 units, all unfavourable recovering. The excessive algal weed and diffuse pollution impacts are being addressed through the South Downs and Harbours Clean Water Partnership Delivery Strategy.

Lower Test Valley: 8 units all of which are of favourable status.

Bouldnor And Hamstead Cliffs SSSI: 9 units all of which are of favourable status.

Hythe to Calshot Marshes SSSI: 6 units, all unfavourable recovering. The habitat is affected significantly by sea level rise and 'coastal squeeze' as much of the unit is backed by hard sea defences so that the habitats are unable to retreat landward as levels rise. Changes in water level may also be having adverse impacts on the distribution and extent of biotopes associated with the intertidal sediments. The issue is being addressed through the creation of compensatory habitat and coastal re-alignment at Medmerry.

Sinah Common SSSI: 2 units, both unfavourable recovering. Scrub levels on dune grassland remains above target although there is evidence of recent clearance.

(contd...)

Lee-on-the Solent to Itchen Estuary SSSI: 27 units; 82.49% of the area is favourable, 15.98% unfavourable recovering, 1.53% unfavourable no change. Unfavourable recovering units show significant retreat of coastal marsh with large areas being replaced by mudflats. Algal mats in the Hamble estuary and elsewhere, with *Ulva lactuca* particularly abundant, suggests utrophication. The unfavourable no change unit contains a submerged clay bed feature, which is no longer exposed due to sediment recharge. With the lack of long-shore drift and change in beach profile, the sediment from the recharge appears to be accumulating on the exposures.

Newtown Harbour SSSI: 78 units; 89.33% of the area is favourable, 10.32% unfavourable recovering and 0.35% unfavourable declining. Unfavourable recovering units include diffuse pollution issues, which are being addressed through the Isle of Wight Catchment Sensitive Farming Project. Other unfavourable areas are woodland zones outside of the Maritime SAC.

Langstone Harbour SSSI: 13 units; 8.96% of the area is favourable, 90.60% unfavourable recovering and 0.45% unfavourable declining. Issues associated with 'coastal squeeze' and changes in water level are being addressed through the creation of compensatory habitat and coastal re-alignment at Medmerry. There is also concern about high nutrient levels throughout Langstone Harbour, resulting in excessive algal growth in places. The unfavourable declining unit is partly coincidental with the SAC but is a roosting habitat for wintering birds above high tide level. There is an increasing amount of scattered scrub so that it is becoming less attractive to birds.

(contd...)

Medina Estuary SSSI: 12 units all of which are favourable.

Thorness Bay SSSI: 14 units; 96.21% of the area is favourable and 3.79% is unfavourable declining. The 2 unfavourable declining units are outside of the SAC's geographical area.

Warblington Meadow SSSI: consisting of one unfavourable recovering unit, now under Higher Level Stewardship (HLS).

North Solent SSSI: 98 units; 63.21% of the area is favourable, 34.94% is unfavourable recovering, 0.93% unfavourable no change and 0.91% unfavourable declining. At several locations of open coast, active erosion of salt marsh is apparent with significant areas of marsh reverting to mudflat, particularly around the seaward areas of the Beaulieu River estuary. Some units are remedied by the Lymington reed bed water level management plan, which re-established tidal exchange in the Lymington River. The scheme will deliver 21ha of intertidal habitat to offset coastal squeeze occurring elsewhere. The unfavourable declining area is outside of SAC geographic area.

<b>Key Environmental Conditions Supporting Site Integrity</b>	<ul style="list-style-type: none"> <li>▶ Sufficient space between the site and development to allow for managed retreat of intertidal habitats and avoid coastal squeeze</li> <li>▶ No dredging or land-claim of coastal habitats</li> <li>▶ Unpolluted water</li> <li>▶ Absence of nutrient enrichment in the intertidal zone</li> <li>▶ Absence of eutrophication and acidification from atmospheric pollution</li> <li>▶ Absence of non-native species</li> <li>▶ Maintenance of freshwater inputs</li> <li>▶ Balance of saline and non-saline conditions</li> <li>▶ Maintenance of grazing</li> </ul>
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Sources:  
 Joint Nature Conservation Committee, Protected Sites Information, 2012  
 Natural England, European Site Conservation Objectives, 2012  
 Habitats Directive, Annex I, 1992  
 Natural England, Nature on the Map, 2012 (Feb)  
 DEFRA, Magic, 2012

Site Characteristics for New Forest SAC			
Location / NGR / Area	Hampshire; Wiltshire	50 51 59 N, 01 40 50 W	29262.36 ha
Coincident Sites	Landford Heath SSSI, River Avon System SSSI, Landford Bog SSSI, Langley Wood and Homan's Copse SSSI, Whiteparish Common SSSI, Loosehanger Copse and Meadows SSSI, The New Forest SSSI, Norley Copse and Meadow SSSI, Roydon Woods SSSI, Lymington River SSSI and North Solent SSSI. The New Forest SPA, New Forest Ramsar		

<b>Broad Habitat Classes</b>	Bogs. Marshes. Water fringed vegetation. Fens (7%) Heath. Scrub. Maquis and garrigue. Phygrana (34%) Dry grassland. Steppes (10%) Humid grassland. Mesophile grassland (3%) Broad-leaved deciduous woodland (29%) Coniferous woodland (17%)
<b>Ecological Description</b>	<p>The New Forest contains the most extensive stands of lowland northern Atlantic wet heaths in southern England, mainly of the <i>Erica tetralix</i> - <i>Sphagnum compactum</i> type. <i>Schoenus nigricans</i> - <i>Narthecium ossifragum</i> mire is also found on this site. The wet heaths are important for rare plants, such as marsh gentian <i>Gentiana pneumonanthe</i> and marsh clubmoss <i>Lycopodiella inundata</i>, and a number of dragonfly species, including the scarce blue-tailed damselfly <i>Ischnura pumilio</i> and small red damselfly <i>Ceriagrion tenellum</i>. There is a wide range of transitions between wet heath and other habitats, including dry heath, various woodland types, <i>Molinia</i> grasslands, fen, and acid grassland. Wet heaths enriched by bog myrtle <i>Myrica gale</i> are a prominent feature of many areas of the Forest. Unlike much lowland heath, the New Forest heaths continue to be extensively grazed by cattle and horses, favouring species with low competitive ability.</p> <p>The New Forest represents European dry heaths in southern England and is the largest area of lowland heathland in the UK. It is particularly important for the diversity of its habitats and the range of rare and scarce species which it supports. The New Forest is unusual because of its long history of grazing in a traditional fashion by ponies and cattle. The dry heaths of the New Forest are of the <i>Calluna vulgaris</i> - <i>Ulex minor</i> heath type, and <i>Ulex minor</i> - <i>Agrostis curtisii</i> heath is found on damper areas. There are a wide range of transitions between dry heath and wet heath, <i>Molinia</i> grassland, fen, acid grassland and various types of scrub and woodland. Both the New Forest and the two Dorset Heath SACs are in southern England. All three areas are selected because together they contain a high proportion of all the lowland European dry heaths in the UK. There are, however, significant differences in the ecology of the two areas, associated with more oceanic conditions in Dorset and the continuous history of grazing in the New Forest.</p>

	<p>The New Forest represents <i>Molinia</i> meadows in southern England. The site supports a large area of the heathy form of <i>Molinia caerulea</i> - <i>Cirsium dissectum</i> fen-meadow. This vegetation occurs in situations of heavy grazing by ponies and cattle in areas known locally as lawns, often in a fine-scale mosaic with northern Atlantic wet heaths and other mire and grassland communities. These lawns occur on flushed soils on slopes and on level terrain on the floodplains of rivers and streams. The New Forest <i>Molinia</i> meadows are unusual in the UK in terms of their species composition, management and landscape position. The grasslands are species-rich, and a particular feature is the abundance of small sedges such as carnation sedge <i>Carex panicea</i>, common sedge <i>C. nigra</i> and yellow-sedge <i>C. viridula ssp. oedocarpa</i>, and the more frequent occurrence of mat-grass <i>Nardus stricta</i> and petty whin <i>Genista anglica</i> compared to stands elsewhere in the UK.</p>	
<p><b>Qualifying Features</b>                  * Denotes priority feature</p>	<p>Oligotrophic waters containing very few minerals of sandy plains (<i>Littorelletalia uniflorae</i>)</p>	<p>Annex I Habitat</p>
	<p>Oligotrophic to mesotrophic standing waters with vegetation of the <i>Littorelletea uniflorae</i> and/or of the <i>Isoëto-Nanojuncetea</i></p>	<p>Annex I Habitat</p>
	<p>Northern Atlantic wet heaths with <i>Erica tetralix</i></p>	<p>Annex I Habitat</p>
	<p>European dry heaths</p>	<p>Annex I Habitat</p>
	<p><i>Molinia</i> meadows on calcareous, peaty or clayey-silt-laden soils (<i>Molinion caeruleae</i>)</p>	<p>Annex I Habitat</p>
	<p>Depressions on peat substrates of the <i>Rhynchosporion</i></p>	<p>Annex I Habitat</p>
	<p>Atlantic acidophilous beech forests with <i>Ilex</i> and sometimes also <i>Taxus</i> in the shrublayer (<i>Quercion robori-petraeae</i> or <i>Ilici-Fagenion</i>)</p>	<p>Annex I Habitat</p>
	<p><i>Asperulo-Fagetum</i> beech forests</p>	<p>Annex I Habitat</p>
	<p>Old acidophilous oak woods with <i>Quercus robur</i> on sandy plains</p>	<p>Annex I Habitat</p>
	<p>Bog woodland *</p>	<p>Annex I Habitat</p>
<p>Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>) *</p>	<p>Annex I Habitat</p>	

	Transition mires and quaking bogs	Annex I Habitat
	Alkaline fens	Annex I Habitat
	Southern damselfly <i>Coenagrion mercuriale</i>	Annex II Species
	Stag beetle <i>Lucanus cervus</i>	Annex II Species
	Great crested newt <i>Triturus cristatus</i>	Annex II Species
	Brook lamprey <i>Lampetra planeri</i>	Annex II Species
	Barbastelle bat <i>Barbastella barbastellus</i>	Annex II Species
	Bechstein's bat <i>Myotis bechsteini</i>	Annex II Species
	Otter <i>Lutra lutra</i>	Annex II Species
	Bullhead <i>Cottus gobio</i>	Annex II Species
<b>Conservation Objectives</b>	<p>With regard to the natural habitats and/or species for which the site has been designated (the Qualifying Features listed above);            Avoid the deterioration of the qualifying natural habitats and the habitats of qualifying species, and the significant disturbance of those qualifying species, ensuring the integrity of the site is maintained and the site makes a full contribution to achieving Favourable Conservation Status of each of the qualifying features.            Subject to natural change, to maintain or restore:</p> <ul style="list-style-type: none"> <li>▶ The extent and distribution of qualifying natural habitats and habitats of qualifying species;</li> <li>▶ The structure and function (including typical species) of qualifying natural habitats and habitats of qualifying species;</li> <li>▶ The supporting processes on which qualifying natural habitats and habitats of qualifying species rely;</li> <li>▶ The populations of qualifying species;</li> <li>▶ The distribution of qualifying species within the site.</li> </ul>	



## Condition Status and Trends

There are eleven coincident or adjacent SSSI sites of varying statuses;

Landford Heath SSSI: 3 units consisting of; 51.97% unfavourable recovering and 48.03% unfavourable declining.

River Avon System SSSI: 51 units consisting of; 3.48% favourable, 36.59% unfavourable recovering, 57.13% unfavourable no change and 2.80% unfavourable declining.

Landford Bog SSSI: 2 units consisting of; 27.76% Favourable and 72.24% unfavourable recovering.

Langley Wood and Homan's Copse SSSI: 3 units consisting of 100% unfavourable no change.

Whiteparish Common SSSI: 4 units consisting of 1.27% favourable, 91.84% unfavourable recovering and 6.90% unfavourable no change.

Loosehanger Copse and Meadows SSSI: 5 units consisting of 100% unfavourable recovering

New Forest SSSI: 582 units; 45.53% of the area is favourable, 53.22% unfavourable recovering, 0.43% unfavourable no change, 0.81% unfavourable declining and 0.01% destroyed/part destroyed.

Norley Copse and Meadow SSSI: 2 units consisting of 58.63% Favourable and 41.37% unfavourable recovering.

Roydon Woods SSSI: 8 units consisting of 100% Favourable.

Lymington River SSSI consists of one unfavourable recovering unit\*. The assessment concerns have now been addressed and remedied by the Lymington reed bed water level management plan (See commentary for Lymington River ReedBeds SSSI).

North Solent SSSI: 98 units; 63.21% Favourable, 34.94% unfavourable recovering, 0.93% unfavourable no change and 0.91% unfavourable declining\*. At several locations of open coast, active erosion of salt marsh is apparent with significant areas of marsh reverting to mudflat, particularly around the seaward areas of the Beaulieu River estuary. Some units are remedied by the Lymington reed bed water level management plan, which re-established tidal exchange in the Lymington River.

<b>Key Environmental Conditions Supporting Site Integrity</b>	<ul style="list-style-type: none"> <li>▶ Carefully balanced hydrological regime to maintain wet heath, mires and pools</li> <li>▶ Acid soils</li> <li>▶ Minimal air pollution (nitrogen deposition can cause compositional changes over time)</li> <li>▶ Unpolluted water</li> <li>▶ Minimal nutrient inputs</li> <li>▶ Low recreational pressure</li> <li>▶ Maintenance of grazing regime</li> </ul>
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Sources:  
 Joint Nature Conservation Committee, Protected Sites Information, 2012  
 Natural England, European Site Conservation Objectives, 2012  
 Habitats Directive, Annex I, 1992  
 Natural England, Nature on the Map, 2012  
 \*(Feb 2012)  
 DEFRA, Magic, 2012

Site Characteristics for Chichester and Langstone Harbours SPA			
Location / NGR / Area	Hampshire; West Sussex	50 48 23 N, 00 55 12 W	5810.03 ha
Coincident Sites	Chichester Harbour SSSI, Sinah Common SSSI, Langstone Harbour SSSI and Warblington Meadow SSSI Chichester and Langstone Harbours Ramsar, Solent Maritime SAC		

<p><b>Broad Habitat Classes</b></p>	<p>Tidal rivers. Estuaries. Mud flats. Sand flats. Lagoons (including saltwork basins) (63.0%)                  Salt marshes. Salt pastures. Salt steppes (21.5%)                  Coastal sand dunes. Sand beaches. Machair (0.3%)                  Inland water bodies (standing water, running water) (0.4%)                  Bogs. Marshes. Water fringed vegetation. Fens (0.5%)                  Heath. Scrub. Maquis and garrigue. Phygrana (0.1%)                  Humid grassland. Mesophile grassland (1.7%)                  Improved grassland (11.7%)                  Broad-leaved deciduous woodland (0.8%)                  Other land (including towns, villages, roads, waste places, mines, industrial sites) (0.2%)</p>	
<p><b>Ecological Description</b></p>	<p>Chichester and Langstone Harbours are located on the south coast of England in Hampshire and West Sussex. They are large, sheltered estuarine basins comprising extensive sand and mudflats exposed at low tide. The two harbours are joined by a stretch of water that separates Hayling Island from the mainland. Tidal channels drain the basin and penetrate far inland. The mud-flats are rich in invertebrates and also support extensive beds of algae, especially <i>Enteromorpha</i> species, and eelgrasses <i>Zostera spp.</i> The basin contains a wide range of coastal habitats supporting important plant and animal communities. The site is of particular significance for waterbirds, especially in migration periods and in winter. It also supports important colonies of breeding terns.</p>	
<p><b>Qualifying Features</b></p>	<p>Little Tern <i>Sterna albifrons</i>, 100 pairs representing up to 4.2% of the breeding population in Great Britain (5 year mean, 1992-1996)</p>	<p>Article 4.1 Qualification</p>
	<p>Sandwich Tern <i>Sterna sandvicensis</i>, 158 pairs representing up to 1.1% of the breeding population in Great Britain (1998)</p>	<p>Article 4.1 Qualification</p>
	<p>Common Tern <i>Sterna hirundo</i>, 0.3% of the breeding population in Great Britain (5 year mean, 1992-1996)</p>	<p>Article 4.1 Qualification</p>
	<p>Bar-tailed Godwit <i>Limosa lapponica</i>, 1,692 individuals representing up to 3.2% of the wintering population in Great Britain (5 year peak mean 1991/2 - 1995/6)</p>	<p>Article 4.1 Qualification</p>

	<b>Over winter the area regularly supports:</b>	
	Ringed plover <i>Charadrius hiaticula</i> , 3% of the population in Great Britain. (5 year peak mean 1991/2 - 1995/6)	Article 4.2 Qualification
	Northern pintail <i>Anas acuta</i> , 1.2% of the population in Great Britain. (5 year peak mean 1991/2 - 1995/6)	Article 4.2 Qualification
	Northern Shoveler <i>Anas clypeata</i> , 1% of the population in Great Britain. (5 year peak mean 1991/2 - 1995/6)	Article 4.2 Qualification
	Teal <i>Anas crecca</i> , 0.5% of the population in Great Britain. (5 year peak mean 1991/2 - 1995/6)	Article 4.2 Qualification
	Wigeon <i>Anas penelope</i> , 0.7% of the population in Great Britain. (5 year peak mean 1991/2 - 1995/6)	Article 4.2 Qualification
	Turnstone <i>Arenaria interpres</i> , 0.7% of the population in Great Britain. (5 year peak mean 1991/2 - 1995/6)	Article 4.2 Qualification
	Dark-bellied Brent Goose <i>Branta bernicla bernicla</i> , 17,119 individuals representing up to 5.7% of the wintering Western Siberia/Western Europe population (5 year peak mean 1991/2 - 1995/6)	Article 4.2 Qualification
	Sanderling <i>Calidris alba</i> , 0.2% of the wintering Western Siberia/Western Europe population (5 year peak mean 1991/2 - 1995/6)	Article 4.2 Qualification
	Dunlin <i>Calidris alpina alpina</i> , 44,294 individuals representing up to 3.2% of the wintering Northern Siberia/Europe/Western Africa population (5 year peak mean 1991/2 - 1995/6)	Article 4.2 Qualification
Red-Breasted Merganser <i>Mergus serrator</i> , 3% of the population in Great Britain.(5 year peak mean 1991/92-1995/96)	Article 4.2 Qualification	

	<p>Curlew <i>Numenius arquata</i>, 1.6% of the population in Great Britain. (5 year peak mean 1991/92-1995/96)</p>	<p>Article 4.2 Qualification</p>
	<p>Grey Plover <i>Pluvialis squatarola</i>, 3,825 individuals representing up to 2.3% of the wintering Eastern Atlantic - wintering population (5 year peak mean 1991/2 - 1995/6)</p>	<p>Article 4.2 Qualification</p>
	<p>Common Shellduck <i>Tadorna tadorna</i>, 3.3% of the population in Great Britain. (5 year peak mean 1991/92-1995/96)</p>	<p>Article 4.2 Qualification</p>
	<p>Redshank <i>Tringa totanus</i>, 1% of the wintering Eastern Atlantic - wintering population (5 year peak mean 1991/2 - 1995/6)</p>	<p>Article 4.2 Qualification</p>
	<p>Over winter, the area regularly supports 93230 waterfowl. (5 year peak mean 1991/2 - 1995/6). Including; <i>Branta bernicla bernicla</i> , <i>Tadorna tadorna</i>, <i>Anas penelope</i>, <i>Anas crecca</i>, <i>Anas acuta</i>, <i>Anas clypeata</i>, <i>Mergus serrator</i>, <i>Charadrius hiaticula</i>, <i>Pluvialis squatarola</i>, <i>Calidris alba</i>, <i>Calidris alpina alpina</i>, <i>Limosa lapponica</i>, <i>Numenius arquata</i>, <i>Tringa totanus</i>, <i>Arenaria interpres</i></p>	<p>Article 4.2 Qualification</p>

### Conservation Objectives

With regard to the natural habitats and/or species for which the site has been designated (the Qualifying Features listed above);  
Avoid the deterioration of the qualifying natural habitats and the habitats of qualifying species, and the significant disturbance of those qualifying species, ensuring the integrity of the site is maintained and the site makes a full contribution to achieving Favourable Conservation Status of each of the qualifying features.

Subject to natural change, to maintain or restore:

- ▶ The extent and distribution of qualifying natural habitats and habitats of qualifying species;
- ▶ The structure and function (including typical species) of qualifying natural habitats and habitats of qualifying species;
- ▶ The supporting processes on which qualifying natural habitats and habitats of qualifying species rely;
- ▶ The populations of qualifying species;
- ▶ The distribution of qualifying species within the site.

### Condition Status and Trends

There are four coincident or adjacent SSSI sites of varying statuses;

Chichester Harbour SSSI: 43 units; 22.09% of the area is favourable, 77.67% unfavourable recovering and 0.24% unfavourable no change. Unfavourable recovering areas are mainly units affected significantly by sea level rise and 'coastal squeeze' as much of the units' area is backed by hard sea defences so habitats are unable to retreat landward as levels rise. Recovery is through creation of compensatory habitat and coastal re-alignment at Medmerry. Some unfavourable units including the 'unfavourable no change' units are impacted by diffuse pollution creating excessive nutrients, characterised by green algae.\*

Sinah Common SSSI: 2 units, both unfavourable recovering. Scrub levels on dune grassland remains above target although there is evidence of recent clearance.\*

Langstone Harbour SSSI: 13 units; 8.96% of the area is favourable, 90.60% unfavourable recovering and 0.45% unfavourable declining. Issues associated with 'coastal squeeze' and changes in water level are being addressed through the creation of compensatory habitat and coastal re-alignment at Medmerry. There is also concern about high nutrient levels throughout Langstone Harbour, resulting in excessive algal growth in places. The unfavourable declining unit is partly coincidental with the SAC but is a roosting habitat for wintering birds above high tide level. There is an increasing amount of scattered scrub so that it is becoming less attractive to birds.\*

Warblington Meadow SSSI: consisting of one unfavourable recovering unit, now under Higher Level Stewardship (HLS).\*

<b>Key Environmental Conditions Supporting Site Integrity</b>	<ul style="list-style-type: none"> <li>▶ Sufficient space between the site and development to allow for managed retreat of intertidal habitats and avoid coastal squeeze</li> <li>▶ Unpolluted water</li> <li>▶ Absence of nutrient enrichment in the intertidal zone</li> <li>▶ Absence of eutrophication and acidification from atmospheric pollution</li> <li>▶ Absence of non-native species e.g. from shipping activity</li> <li>▶ Maintenance of appropriate hydrological regime, e.g. freshwater flows at heads of channels are important for birds to preen, drink and feed</li> <li>▶ Short grasslands surrounding the site are essential to maintaining interest features as they are now the key foraging resource for Brent goose</li> </ul>
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Sources:  
 Joint Nature Conservation Committee, Protected Sites Information, 2012  
 Natural England, European Site Conservation Objectives, 2012  
 Habitats Directive, Annex I, 1992  
 Natural England, Nature on the Map, 2012  
 \*(Feb 2012)  
 DEFRA, Magic, 2012

Site Characteristics for Portsmouth Harbour SPA			
Location / NGR / Area	Hampshire	50 49 41 N, 01 07 32 W	1248.77 ha
Coincident Sites	Portsmouth Harbour SSSI, Portsmouth Harbour Ramsar, Portsmouth Harbour SPA		
Broad Habitat Classes	Tidal rivers. Estuaries. Mud flats. Sand flats. Lagoons (including saltwork basins) (85.0%) Salt marshes. Salt pastures. Salt steppes (14.0%) Humid grassland. Mesophile grassland (1.0%)		

<p><b>Ecological Description</b></p>	<p>Portsmouth Harbour is located on the central south coast of England. It is a large industrialised estuary and includes one of the four largest expanses of mud-flats and tidal creeks on the south coast of Britain. The mud-flats support large beds of narrow-leaved eelgrass <i>Zostera angustifolia</i> and dwarf eelgrass <i>Z. noltii</i>, extensive green algae beds, mainly <i>Enteromorpha</i> species, and sea lettuce <i>Ulva lactuca</i>. Portsmouth Harbour has only a narrow connection to the sea via the Solent, and receives comparatively little fresh water, thus giving it an unusual hydrology. The site supports important numbers of wintering dark-bellied Brent goose <i>Branta b. bernicla</i>, which feed also in surrounding agricultural areas away from the SPA.</p>	
<p><b>Qualifying Features</b></p>	<p>Black-tailed Godwit <i>Limosa limosa islandica</i>, 31 individuals representing up to 0.4% of the wintering Iceland - breeding population (5 year peak mean 1991/2 - 1995/6)</p>	<p>Article 4.2 qualification</p>
	<p>Dark-bellied Brent Goose <i>Branta bernicla bernicla</i>, 2,847 individuals representing at least 0.9% of the wintering Western Siberia/Western Europe population (5 year peak mean 1991/2 - 1995/6)</p>	<p>Article 4.2 qualification</p>
	<p>Dunlin <i>Calidris alpina alpina</i>, 5,123 individuals representing up to 1% of the wintering Northern Siberia/Europe/Western Africa population (5 year peak mean 1991/2 - 1995/6)</p>	<p>Article 4.2 qualification</p>
	<p>Red-breasted Merganser <i>Mergus serrator</i>, 87 individuals representing up to 0.9% of the wintering North-western/Central Europe population (5year peak mean 1991/92 - 1995/96)</p>	<p>Article 4.2 qualification</p>



<b>Conservation Objectives</b>	<p>With regard to the individual species and/or assemblage of species for which the site has been classified (the Qualifying Features listed above);</p> <p>Avoid the deterioration of the habitats of the qualifying features, and the significant disturbance of the qualifying features, ensuring the integrity of the site is maintained and the site makes a full contribution to achieving the aims of the Birds Directive.</p> <p>Subject to natural change, to maintain or restore:</p> <ul style="list-style-type: none"><li>▶ The extent and distribution of the habitats of the qualifying features;</li><li>▶ The structure and function of the habitats of the qualifying features;</li><li>▶ The supporting processes on which the habitats of the qualifying features rely;</li><li>▶ The populations of the qualifying features;</li><li>▶ The distribution of the qualifying features within the site.</li></ul>
<b>Condition Status and Trends</b>	<p>There is one coincident or adjacent SSSI site of mostly unfavourable recovering status;</p> <p>Portsmouth SSSI: 23 units consisting of; 23.44% Favourable, 76.19% unfavourable recovering, 0.02% unfavourable declining and 0.35% destroyed /part destroyed.</p>
<b>Key Environmental Conditions Supporting Site Integrity</b>	<ul style="list-style-type: none"><li>▶ Sufficient space between the site and development to allow for managed retreat of intertidal habitats and avoid coastal squeeze</li><li>▶ Unpolluted water</li><li>▶ Absence of nutrient enrichment of water</li><li>▶ Absence of non-native species</li><li>▶ Maintenance of appropriate hydrological regime</li></ul>

Sources:

Joint Nature Conservation Committee, Protected Sites Information, 2012  
Natural England, European Site Conservation Objectives, 2012  
Habitats Directive, Annex I, 1992  
Natural England, Nature on the Map, 2012; DEFRA, Magic, 2012

Site Characteristics for Solent & Southampton Water SPA			
Location / NGR / Area	Hampshire and Isle of Wight	50 44 25N, 01 31 33 W	5505.86 (ha)
Coincident Sites	<p>Yar Estuary SSSI, Hurst Castle and Lymington River Estuary SSSI, Bembridge School and Cliffs SSSI, New Forest SSSI, King's Quay Shore SSSI, Sowley Pond SSSI, Upper Hamble Estuary and Woods SSSI, Whitecliff Bay and Bembridge Ledges SSSI, Eling and Bury Marshes SSSI, Lincegrove and Hackett's Marshes SSSI, Brading Marshes to St Helen's Ledges SSSI, Lower Test Valley SSSI, Lymington River ReedBeds SSSI, Dibden Bay SSSI, Hythe to Calshot Marshes SSSI, River Test SSSI, Lee-on-the Solent to Itchen Estuary SSSI, Titchfield Haven SSSI, Newtown Harbour SSSI, Lymington River SSSI, Medina Estuary SSSI, Thorness Bay SSSI, Ryde Sands and Wootton Creek SSSI, North Solent SSSI.</p> <p>Solent and isle of Wight Lagoons SAC, South Wight SAC, Solent Maritime SAC and Solent and Southampton Water Ramsar.</p>		
Broad Habitat Classes	<p>Tidal rivers. Estuaries. Mud flats. Sand flats. Lagoons (including saltwork basins) (47.7%)            Salt marshes. Salt pastures. Salt steppes (18.2%)            Coastal sand dunes. Sand beaches. Machair (2.8%)            Shingle. Sea cliffs. Islets (10.2%)            Bogs. Marshes. Water fringed vegetation. Fens (3.4%)            Humid grassland. Mesophile grassland (17.1%)            Broad-leaved deciduous woodland (0.6%)</p>		
Ecological Description	<p>The Solent and Southampton Water are located on the south English coast. The area covered extends from Hurst Spit to Hill Head along the south coast of Hampshire, and from Yarmouth to Whitecliff Bay along the north coast of the Isle of Wight. The site comprises a series of estuaries and harbours with extensive mud-flats and saltmarshes together with adjacent coastal habitats including saline lagoons, shingle beaches, reedbeds, damp woodland and grazing marsh. The mud-flats support beds of <i>Enteromorpha spp.</i> and <i>Zostera spp.</i> and have a rich invertebrate fauna that forms the food resource for the estuarine birds. In summer, the site is of importance for breeding seabirds, including gulls and four species of terns. In winter, the SPA holds a large and diverse assemblage of waterbirds, including geese, ducks and waders. Dark-bellied Brent Goose <i>Branta b. bernicla</i> also feed in surrounding areas of agricultural land outside the SPA.</p>		
Qualifying Features	Common Tern <i>Sterna hirundo</i> , 267 pairs representing at least 2.2% of the breeding population in Great Britain (5 year peak mean, 1993-1997)	Article 4.1 qualification	

	<p>Little Tern <i>Sterna albifrons</i>, 49 pairs representing at least 2.0% of the breeding population in Great Britain (5 year peak mean, 1993-1997)</p>	<p>Article 4.1 qualification</p>
	<p>Mediterranean Gull <i>Larus melanocephalus</i>, 2 pairs representing at least 20.0% of the breeding population in Great Britain (5 year peak mean, 1994-1998)</p>	<p>Article 4.1 qualification</p>
	<p>Sandwich Tern <i>Sterna sandvicensis</i>, 231 pairs representing at least 1.7% of the breeding population in Great Britain (5 year peak mean, 1993-1997)</p>	<p>Article 4.1 qualification</p>
	<p>Roseate Tern <i>Sterna dougallii</i>, 2 pairs representing at least 3.3% of the breeding population in Great Britain (5 year peak mean, 1993-1997)</p>	<p>Article 4.1 qualification</p>
	<p>Black-tailed Godwit <i>Limosa limosa islandica</i>, 1,125 individuals representing at least 1.6% of the wintering Iceland - breeding population (5 year peak mean, 1992/3-1996/7)</p>	<p>Article 4.2 qualification</p>
	<p>Dark-bellied Brent Goose <i>Branta bernicla bernicla</i>, 7,506 individuals representing at least 2.5% of the wintering Western Siberia/Western Europe population (5 year peak mean, 1992/3-1996/7)</p>	<p>Article 4.2 qualification</p>
	<p>Ringed Plover <i>Charadrius hiaticula</i>, 552 individuals representing at least 1.1% of the wintering Europe/Northern Africa - wintering population (5 year peak mean, 1992/3-1996/7)</p>	<p>Article 4.2 qualification</p>
	<p>Teal <i>Anas crecca</i>, 4,400 individuals representing at least 1.1% of the wintering Northwestern Europe population (5 year peak mean, 1992/3-1996/7)</p>	<p>Article 4.2 qualification</p>

	<p>Over winter, the area regularly supports 53,948 individual waterfowl (5 year peak mean 1991/2 - 1995/6) including: Gadwall <i>Anas strepera</i>, Teal <i>Anas crecca</i>, Ringed Plover <i>Charadrius hiaticula</i>, Black-tailed Godwit <i>Limosa limosa islandica</i>, Little Grebe <i>Tachybaptus ruficollis</i>, Great Crested Grebe <i>Podiceps cristatus</i>, Cormorant <i>Phalacrocorax carbo</i>, Dark-bellied Brent Goose <i>Branta bernicla bernicla</i>, Wigeon <i>Anas penelope</i>, Redshank <i>Tringa totanus</i>, Pintail <i>Anas acuta</i>, Shoveler <i>Anas clypeata</i>, Red-breasted Merganser <i>Mergus serrator</i>, Grey Plover <i>Pluvialis squatarola</i>, Lapwing <i>Vanellus vanellus</i>, Dunlin <i>Calidris alpina alpina</i>, Curlew <i>Numenius arquata</i>, Shelduck <i>Tadorna tadorna</i>.</p>	<p>Article 4.2 qualification</p>
<p><b>Conservation Objectives</b></p>	<p>With regard to the individual species and/or assemblage of species for which the site has been classified (the Qualifying Features listed above);</p> <p>Avoid the deterioration of the habitats of the qualifying features, and the significant disturbance of the qualifying features, ensuring the integrity of the site is maintained and the site makes a full contribution to achieving the aims of the Birds Directive.</p> <p>Subject to natural change, to maintain or restore:</p> <ul style="list-style-type: none"><li>▶ The extent and distribution of the habitats of the qualifying features;</li><li>▶ The structure and function of the habitats of the qualifying features;</li><li>▶ The supporting processes on which the habitats of the qualifying features rely;</li><li>▶ The populations of the qualifying features;</li><li>▶ The distribution of the qualifying features within the site.</li></ul>	

## Condition Status and Trends

There are 22 coincidental or adjacent SSSI sites of varying statuses;

Yar Estuary SSSI: 30 units; 83.15% of the area is favourable and 16.85% unfavourable recovering. Most of the unfavourable area is affected by sea level rise and 'coastal squeeze'. Much of the unit is backed by hard sea defences so that the habitats are unable to retreat landward as levels rise. Changes in water level may also be having adverse impacts on the distribution and extent of biotopes associated with the intertidal sediments. The issue is being addressed through the creation of compensatory habitat and coastal re-alignment at Medmerry.

Hurst Castle and Lymington River Estuary SSSI: 34 units; 27.04% of the area is favourable, 70.09% unfavourable recovering and 2.87% unfavourable declining. Inappropriate sea defences along the eastern part of the broadleaved, mixed and yew woodland - lowland unit have caused loss of vegetation along a 5 metre wide strip of one unfavourable declining unit and another is experiencing loss of intertidal habitat due to natural erosion. Operation of ferries is accelerating this erosion.

Bembridge School and Cliffs SSSI: 6 units; 92.45% of the area is favourable and 7.55% unfavourable no change. Unfavourable units generally due to presence of beach huts or landscaped gardens affecting interest feature and vegetation encroachment on cliff face.

New Forest SSSI: 582 units; 45.53% of the area is favourable, 53.22% unfavourable recovering, 0.43% unfavourable no change, 0.81% unfavourable declining and 0.01% destroyed/part destroyed. Only small areas of the SSSI overlap with the SPA.

King's Quay Shore SSSI: 30 units; 76.99% of the area is favourable, 20.95% unfavourable recovering, 1.86% unfavourable declining and 0.21% destroyed / part destroyed. Unfavourable declining and destroyed areas are woodland areas affected by inappropriate woodland management.

Sowley Pond SSSI: 2 units both of which are favourable.

Upper Hamble Estuary and Woods: 16 units; 85.94% of the area is favourable, 11.31% unfavourable recovering and 2.75% unfavourable no change. Unfavourable unit is outside of the SPA geographical area.

Whitecliff Bay and Bembridge Ledges SSSI: 8 units; 99.07% of the area is favourable and 0.93% unfavourable no change.

Eling and Bury Marshes SSSI: 4 units; 11.46% of the area is favourable and 88.54% unfavourable recovering. Unfavourable recovering units are affected by diffuse pollution, which is being addressed by through the Solent DWP action, and by sea level rise creating 'coastal squeeze' as much of the unit is backed by hard sea defences. However, the issue is being addressed through the creation of compensatory habitat and coastal re-alignment at Medmerry.

Lincegrove and Hackett's Marshes SSSI: 3 units, all unfavourable recovering. The excessive algal weed and diffuse pollution impacts are being addressed through the South Downs and Harbours Clean Water Partnership Delivery Strategy.

Brading Marshes to St Helen's Ledges SSSI: 58 units; 50.57% of the area is favourable, 39.79% unfavourable recovering and 9.64% unfavourable declining. Unfavourable declining units are affected by different factors; coastal squeeze due to sea defences, encroachment by scrub, undergrazing, poor waterway management and illicit vehicles.

Lower Test Valley SSSI: 8 units all of which are of favourable status.

Lymington River ReedBeds SSSI: 4 units; 35.50% of the area is favourable and 64.50% is unfavourable recovering. Unfavourable units are part of HLS scheme and remedied by the Lymington reed bed water level management plan, which re-establishes tidal exchange in the Lymington River. The scheme will deliver 21ha of intertidal habitat, and address the water levels to create a more sustainable and manageable suite of habitats.

Dibden Bay SSSI: 2 units; 98.00% of the area is favourable and 2% is unfavourable declining. This SSSI only abuts the SPA alongside the eastern edge of the site. The unfavourable unit is outside of the SPA geographical area.

Hythe to Calshot Marshes SSSI: 6 units, all unfavourable recovering. The habitat is affected significantly by sea level rise and 'coastal squeeze' as much of the unit is backed by hard sea defences so that the habitats are unable to retreat landward as levels rise. Changes in water level may also be having adverse impacts on the distribution and extent of biotopes associated with the intertidal sediments. The issue is being addressed through the creation of compensatory habitat and coastal re-alignment at Medmerry.

declining. There is only one unit, to the south of the SSSI, which is coincidental to the SPA, which has a status of 'unfavourable no change' (water flow, water quality and some aspects of channel and banks habitat structure are below targets and standards). Main causes include; inappropriate weirs dams and other structures, invasive freshwater species, siltation and agriculture/run off water pollution.

Lee-on-the Solent to Itchen Estuary SSSI: 27 units; 82.49% of the area is favourable, 15.98% unfavourable recovering, 1.53% unfavourable no change. Unfavourable recovering units show significant retreat of coastal marsh with large areas being replaced by mudflats. Algal mats in the Hamble estuary and elsewhere, with *Ulva lactuca* particularly abundant, suggests eutrophication. The 'unfavourable no change' unit contains a submerged clay bed feature, which is no longer exposed due to sediment recharge. With the lack of long-shore drift and change in beach profile, the sediment from the recharge appears to be accumulating on the exposures.

River Test SSSI: 91 units; 18.50% favourable, 36.99% unfavourable recovering, 12.36% unfavourable no change and 32.16% unfavourable

Titchfield Haven SSSI: 8 units; 96.48% of the area is favourable and 3.52% unfavourable declining. The unfavourable area is a reedbed community which has scrub encroachment including willow and oak saplings.

(contd...)

Newtown Harbour SSSI: 78 units; 89.33% of the area is favourable, 10.32% unfavourable recovering and 0.35% unfavourable declining. Unfavourable recovering units include diffuse pollution issues, which are being addressed through the Isle of Wight Catchment Sensitive Farming Project. The unfavourable declining unit is outside of the SPA geographic boundary.

Medina Estuary SSSI: 12 units all of which are favourable.

Thorness Bay SSSI: 14 units; 96.21% of the area is favourable and 3.79% is unfavourable declining. The unfavourable declining areas are showing signs of under grazing and succession with scrub encroachment and herbaceous plants. The shingle bank of one unit is highly trampled due to foot traffic from the holiday park lane and car park.

Lymington River SSSI consists of one unfavourable recovering unit, of which only the southern most points of the river overlap with the SPA geographical area. The assessment concerns have now been addressed and remedied by the Lymington reed bed water level management plan (See above commentary for Lymington River ReedBeds SSSI).

Ryde Sands and Wootton Creek SSSI: 17 units of which 71.92% of the area is favourable and 28.08% is unfavourable recovering. The western areas of unfavourable recovering units (that are coincidental) are affected by sea level rise and 'coastal squeeze' as much of the unit is backed by hard sea defences so that the habitats are unable to retreat landward as levels rise. Changes in water level may also be having adverse impacts on the distribution and extent of biotopes associated with the intertidal sediments. The issue is being addressed through the creation of compensatory habitat and coastal re-alignment at Medmerry. The other mid-point coincidental area is affected by heavy use by hovercraft and access to the marina. No visible strandline and high visitor use for this area suggest it is not in favourable condition.

(contd...)

North Solent SSSI: 98 units; 63.21% of the area is favourable, 34.94% is unfavourable recovering, 0.93% unfavourable no change and 0.91% unfavourable declining. At several locations of open coast, active erosion of salt marsh is apparent with significant areas of marsh reverting to mudflat, particularly around the seaward areas of the Beaulieu River estuary. Some units are remedied by the Lymington reed bed water level management plan (See above commentary for Lymington River ReedBeds SSSI). The unfavourable declining area is outside of SPA geographic area.

**Key Environmental  
Conditions  
Supporting Site  
Integrity**

- ▶ Sufficient space between the site and development to allow for managed retreat of intertidal habitats and avoid coastal squeeze
- ▶ No dredging or land-claim of coastal habitats
- ▶ Unpolluted water
- ▶ Absence of nutrient enrichment in the intertidal zone
- ▶ Absence of eutrophication and acidification from atmospheric pollution
- ▶ Absence of non-native species
- ▶ Low levels of recreational pressure both on shore and offshore can avoid disturbance effects during sensitive (over-wintering) periods
- ▶ Freshwater inputs are of value for providing a localised increase in prey biomass for certain bird species, specific microclimatic conditions and are used for preening and drinking
- ▶ Low amounts of silt loss
- ▶ Short grasslands surrounding the site are essential to maintaining interest features as they are now the key foraging resource

**Sources:**

Joint Nature Conservation Committee, Protected Sites Information, 2012  
Natural England, European Site Conservation Objectives, 2012  
Habitats Directive, Annex I, 1992  
Natural England, Nature on the Map, 2012 (Feb)  
DEFRA, Magic, 2012



<b>Site Characteristics for New Forest SPA</b>			
<b>Location / NGR / Area</b>	Hampshire; Wiltshire	50 49 32 N, 01 39 22 W	28002.81 ha
<b>Coincident Sites</b>	<p>Landford Heath SSSI, River Avon System SSSI, The New Forest SSSI, Norley Copse and Meadow SSSI, Roydon Woods SSSI, Lymington River SSSI and North Solent SSSI.</p> <p>The New Forest SAC, New Forest Ramsar</p>		
<b>Broad Habitat Classes</b>	<p>Inland water bodies (standing water, running water) (0.2%)            Bogs. Marshes. Water fringed vegetation. Fens (5.9%)            Heath. Scrub. Maquis and garrigue. Phygrana (27.3%)            Dry grassland. Steppes (17.6%)            Humid grassland. Mesophile grassland (2.1%)            Broad-leaved deciduous woodland (28.9%)            Coniferous woodland (17.3%)            Other land (including towns, villages, roads, waste places, mines, industrial sites) (0.7%)</p>		
<b>Ecological Description</b>	<p>The New Forest is located in southern Hampshire, west of the Solent in southern England. It comprises a complex mosaic of habitats overlying mainly nutrient-poor soils over plateau gravels. The major components are the extensive wet and dry heaths with their rich valley mires and associated wet and dry grasslands, the ancient pasture woodlands and inclosure woodlands, the network of clean rivers and streams, and frequent permanent and temporary ponds. The area supports important populations of breeding birds associated with such habitats, including nightjar <i>Caprimulgus europaeus</i>, woodlark <i>Lullula arborea</i> and Dartford warbler <i>Sylvia undata</i>. Breeding honey buzzard <i>Pernis apivorus</i> and wintering hen harrier <i>Circus cyaneus</i> are also notable.</p>		
<b>Qualifying Features</b>	Dartford Warbler <i>Sylvia undata</i> , 538 pairs representing at least 33.6% of the breeding population in Great Britain	Article 4.1 qualification	
	Honey Buzzard <i>Pernis apivorus</i> , 2 pairs representing at least 10.0% of the breeding population in Great Britain	Article 4.1 qualification	
	Nightjar <i>Caprimulgus europaeus</i> , 300 pairs representing at least 8.8% of the breeding population in Great Britain	Article 4.1 qualification	

	Woodlark <i>Lullula arborea</i> , 184 pairs representing at least 12.3% of the breeding population in Great Britain (Count as at 1997)	Article 4.1 qualification
	Hen Harrier <i>Circus cyaneus</i> , 15 individuals representing at least 2.0% of the wintering population in Great Britain	Article 4.1 qualification
	Hobby <i>Falco Subbuteo</i> , representing 5% of population in Great Britain	Article 4.2 qualification
	Wood Warbler <i>Phylloscopus sibilatrix</i> , representing at least 2% of population in Great Britain	Article 4.2 qualification
<p><b>Conservation Objectives</b></p>	<p>With regard to the individual species and/or assemblage of species for which the site has been classified (the Qualifying Features listed above);</p> <p>Avoid the deterioration of the habitats of the qualifying features, and the significant disturbance of the qualifying features, ensuring the integrity of the site is maintained and the site makes a full contribution to achieving the aims of the Birds Directive.</p> <p>Subject to natural change, to maintain or restore:</p> <ul style="list-style-type: none"> <li>▶ The extent and distribution of the habitats of the qualifying features;</li> <li>▶ The structure and function of the habitats of the qualifying features;</li> <li>▶ The supporting processes on which the habitats of the qualifying features rely;</li> <li>▶ The populations of the qualifying features;</li> <li>▶ The distribution of the qualifying features within the site.</li> </ul>	

<b>Condition Status and Trends</b>	<p>There are seven coincident or adjacent SSSI sites of varying statuses;</p> <p>Landford Heath SSSI: 3 units consisting of; 51.97% unfavourable recovering and 48.03% unfavourable declining.</p> <p>River Avon System SSSI: 51 units consisting of; 3.48% favourable, 36.59% unfavourable recovering, 57.13% unfavourable no change and 2.80% unfavourable declining.</p> <p>New Forest SSSI: 582 units; 45.53% of the area is favourable, 53.22% unfavourable recovering, 0.43% unfavourable no change, 0.81% unfavourable declining and 0.01% destroyed/part destroyed.</p> <p>Norley Copse and Meadow SSSI: 2 units consisting of 58.63% Favourable and 41.37% unfavourable recovering.</p> <p>Roydon Woods SSSI: 8 units consisting of 100% Favourable.</p> <p>Lymington River SSSI consists of one unfavourable recovering unit*. The assessment concerns have now been addressed and remedied by the Lymington reed bed water level management plan (See commentary for Lymington River ReedBeds SSSI).</p> <p>North Solent SSSI: 98 units; 63.21% Favourable, 34.94% unfavourable recovering, 0.93% unfavourable no change and 0.91% unfavourable declining*. At several locations of open coast, active erosion of salt marsh is apparent with significant areas of marsh reverting to mudflat, particularly around the seaward areas of the Beaulieu River estuary. Some units are remedied by the Lymington reed bed water level management plan, which re-established tidal exchange in the Lymington River.</p>
<b>Key Environmental Conditions Supporting Site Integrity</b>	<ul style="list-style-type: none"><li>▶ Carefully balanced hydrological regime to maintain wet heath, mires and pools</li><li>▶ Acid soils</li><li>▶ Minimal air pollution (nitrogen deposition can cause compositional changes over time)</li><li>▶ Unpolluted water</li><li>▶ Minimal nutrient inputs</li><li>▶ Low recreational pressure</li><li>▶ Appropriate grazing regime</li></ul>

Sources:

Joint Nature Conservation Committee, Protected Sites Information, 2012  
Natural England, European Site Conservation Objectives, 2012  
Habitats Directive, Annex I, 1992  
Natural England, Nature on the Map, 2012; DEFRA, Magic, 2012

<b>Site Characteristics for Chichester and Langstone Harbours Ramsar</b>			
<b>Location / NGR / Area</b>	Hampshire; West Sussex	50 48 23 N, 00 55 12 W	5810.03 ha
<b>Coincident Sites</b>	Chichester Harbour SSSI, Sinah Common SSSI and Langstone Harbour SSSI Solent Maritime SAC, Chichester and Langstone Harbours Ramsar SPA		
<b>Broad Habitat Classes</b>	Tidal flats (46%) Salt marshes (21.4%) Other (14.3%) Estuarine waters (14.1%) Marine beds (e.g. sea grass beds) (1.7%) Freshwater marshes / pools: seasonal / intermittent (0.9%) Sand / shingle shores (including dune systems) (0.8%) Freshwater marshes / pools: permanent (0.4%) Saline / brackish marshes: permanent (0.3%) Shrub-dominated wetlands (0.07%) Rivers / streams / creeks: permanent (0.02%) Coastal brackish / saline lagoons (0.01%)		
<b>Ecological Description</b>	Chichester and Langstone Harbours are large, sheltered estuarine basins comprising extensive mud and sand flats exposed at low tide. The site is of particular significance for over-wintering wildfowl and waders and also a wide range of coastal and transitional habitats supporting important plant and animal communities.		
<b>Qualifying Features</b>	Two large estuarine basins linked by the channel which divides Hayling Island from the main Hampshire coastline. The site includes intertidal mudflats, saltmarsh, sand and shingle spits and sand dunes.	Ramsar criterion 1	

	<p>Assemblages of international importance: Species with peak counts in winter: 76480 waterfowl (5 year peak mean 1998/99-2002/2003)</p>	Ramsar criterion 5
	<p>Qualifying Species/populations (as identified at designation): Species with peak counts in spring/autumn:</p> <p>Ringed plover, <i>Charadrius hiaticula</i>, Europe/Northwest Africa, 853 individuals, representing an average of 1.1% of the population (5 year peak mean 1998/9- 2002/3)</p> <p>Black-tailed godwit, <i>Limosa limosa islandica</i>, Iceland/W Europe, 906 individuals, representing an average of 2.5% of the population (5 year peak mean 1998/9-2002/3)</p> <p>Common redshank, <i>Tringa totanus totanus</i>, 2577 individuals, representing an average of 1% of the population (5 year peak mean 1998/9-2002/3)</p>	Ramsar criterion 6

Conservation Objectives	<p>Qualifying Species/populations (as identified at designation):                  Species with peak counts in winter:</p> <p>Grey plover, <i>Pluvialis squatarola</i>, E Atlantic/WAfrica 3043 individuals, representing an average of 1.2% of the population (5 year peak mean 1998/9-2002/3)</p> <p>Dark-bellied brent goose, <i>Branta bernicla bernicla</i>, 12987 individuals, representing an average of 6% of the population (5 year peak mean 1998/9-2002/3)</p> <p>Common shelduck, <i>Tadorna tadorna</i>, NW Europe 1468 individuals, representing an average of 1.8% of the GB population (5 year peak mean 1998/9-2002/3)</p> <p>Dunlin, <i>Calidris alpina alpina</i>, W Siberia/W Europe, 3436 individuals, representing an average of 2.5% of the population (5 year peak mean 1998/9-2002/3)</p>	Ramsar criterion 6
	<p>Species/populations identified subsequent to designation for possible future consideration under criterion 6. Species regularly supported during the breeding season:</p> <p>Little tern, <i>Sterna albifrons albifrons</i>, W Europe, 130 apparently occupied nests, representing an average of 1.1% of the breeding population (Seabird 2000 Census)</p>	Ramsar criterion 6
<p>The Ramsar Convention criteria for Chichester and Langstone Harbours overlap substantially with the features of the equivalent SPA. No additional conservation objectives are defined to assess these features, but those relating to the SPA can be used.</p>		

### Condition Status and Trends

There are three coincident or adjacent SSSI sites of varying statuses;

Chichester Harbour SSSI: 43 units; 22.09% of the area is favourable, 77.67% unfavourable recovering and 0.24% unfavourable no change. Unfavourable recovering areas are mainly units affected significantly by sea level rise and 'coastal squeeze' as much of the units' area is backed by hard sea defences so habitats are unable to retreat landward as levels rise. Recovery is through creation of compensatory habitat and coastal re-alignment at Medmerry. Some unfavourable units including the 'unfavourable no change' units are impacted by diffuse pollution creating excessive nutrients, characterised by green algae.\*

Sinah Common SSSI: 2 units, both unfavourable recovering. Scrub levels on dune grassland remains above target although there is evidence of recent clearance.\*

Langstone Harbour SSSI: 13 units; 8.96% of the area is favourable, 90.60% unfavourable recovering and 0.45% unfavourable declining. Issues associated with 'coastal squeeze' and changes in water level are being addressed through the creation of compensatory habitat and coastal re-alignment at Medmerry. There is also concern about high nutrient levels throughout Langstone Harbour, resulting in excessive algal growth in places. The unfavourable declining unit is partly coincidental with the SAC but is a roosting habitat for wintering birds above high tide level. There is an increasing amount of scattered scrub so that it is becoming less attractive to birds.\*

### Key Environmental Conditions Supporting Site Integrity

- ▶ Sufficient space between the site and development to allow for managed retreat of intertidal habitats and avoid coastal squeeze
- ▶ Unpolluted water
- ▶ Absence of nutrient enrichment in the intertidal zone
- ▶ Absence of eutrophication and acidification from atmospheric pollution
- ▶ Absence of non-native species e.g. from shipping activity
- ▶ Maintenance of appropriate hydrological regime, e.g. freshwater flows at heads of channels are important for birds to preen, drink and feed
- ▶ Short grasslands surrounding the Ramsar site are essential to maintaining interest features as they are now the key foraging resource for Brent goose

Sources:  
Joint Nature Conservation Committee, Protected Sites Information, 2012  
Natural England, European Site Conservation Objectives, 2012

Habitats Directive, Annex I, 1992  
 Natural England, Nature on the Map, 2012  
 \*(Feb 2012)  
 DEFRA, Magic, 2012

Site Characteristics for Portsmouth Harbour Ramsar			
Location / NGR / Area	Hampshire	50 49 41 N, 01 07 32 W	1248.77 ha
Coincident Sites	Portsmouth Harbour SSSI, Portsmouth Harbour SPA		
Broad Habitat Classes	Tidal flats (59.3%) Estuarine waters (21.2%) Salt marshes (14%) Marine beds (e.g. sea grass beds) (4.8%) Other (0.3%) Coastal brackish / saline lagoons (0.3%) Sand / shingle shores (including dune systems) (0.08%)		
Ecological Description	<p>Portsmouth Harbour's mudflats support large beds of narrowleaved and dwarf eelgrass, extensive green alga and sea lettuce. The intertidal mudflat areas possess extensive beds of eelgrass <i>Zostera angustifolia</i> and <i>Zostera noltei</i> which support the grazing dark-bellied Brent goose <i>Branta bernicla bernicla</i> populations. The mud-snail <i>Hydrobia ulvae</i> is found at extremely high densities, which helps to support the wading bird interest of the site. Common cord-grass <i>Spartina anglica</i> dominates large areas of the saltmarsh and there are also extensive areas of green algae <i>Enteromorpha spp.</i> and sea lettuce <i>Ulva lactuca</i>. More locally the saltmarsh is dominated by sea purslane <i>Halimione portulacoides</i> which gradates to more varied communities at the higher shore levels. The site also includes a number of saline lagoons hosting nationally important species.</p>		



<b>Qualifying Features</b>	The intertidal mudflat areas possess extensive beds of eelgrass <i>Zostera angustifolia</i> and <i>Zostera noltei</i> which support the grazing dark-bellied brent geese populations. The mud-snail <i>Hydrobia ulvae</i> is found at extremely high densities, which helps to support the wading bird interest of the site. Common cord-grass <i>Spartina anglica</i> dominates large areas of the saltmarsh and there are also extensive areas of green algae <i>Enteromorpha</i> spp. and sea lettuce <i>Ulva lactuca</i> . More locally the saltmarsh is dominated by sea purslane <i>Halimione portulacoides</i> which gradates to more varied communities at the higher shore levels. The site also includes a number of saline lagoons hosting nationally important species.	Ramsar criterion 3
	Dark-bellied Brent Goose <i>Branta bernicla bernicla</i> , 2,105 individuals, representing an average of 2.1% of the GB over-wintering population (5 year peak mean 1998/99-2002/03)	Ramsar criterion 6
<b>Conservation Objectives</b>	The Ramsar Convention criteria for the Portsmouth Harbour overlaps substantially with the features of the equivalent SPAs. No additional conservation objectives are defined to assess these features, but those relating to the SPA can be used.	
<b>Condition Status and Trends</b>	There is one coincident or adjacent SSSI site of mostly unfavourable recovering status; Portsmouth SSSI: 23 units consisting of; 23.44% Favourable, 76.19% unfavourable recovering, 0.02% unfavourable declining and 0.35% destroyed /part destroyed.	

**Key Environmental  
Conditions  
Supporting Site  
Integrity**

- ▶ Sufficient space between the site and development to allow for managed retreat of intertidal habitats and avoid coastal squeeze
- ▶ No dredging or land-claim of coastal habitats
- ▶ Unpolluted water
- ▶ Absence of nutrient enrichment in the intertidal zone
- ▶ Absence of non-native species
- ▶ Low levels of recreational pressure both on shore and offshore can avoid disturbance effects during sensitive (over-wintering) periods
- ▶ Freshwater inputs are of value for providing a localised increase in prey biomass for certain bird species, specific microclimatic conditions and are used for preening and drinking
- ▶ Short grasslands surrounding the site are essential to maintaining interest features as they are now the key foraging resource

**Sources:**

Joint Nature Conservation Committee, Protected Sites Information, 2012  
Natural England, European Site Conservation Objectives, 2012  
Habitats Directive, Annex I, 1992  
Natural England, Nature on the Map, 2012  
DEFRA, Magic, 2012

<b>Site Characteristics for Solent &amp; Southampton Water Ramsar</b>			
<b>Location / NGR / Area</b>	Hampshire and Isle of Wight	50 44 25 N, 01 31 32 W	5346.44 (ha)
<b>Coincident Sites</b>	<p>Yar Estuary SSSI, Hurst Castle and Lymington River Estuary SSSI, Bembridge School and Cliffs SSSI, New Forest SSSI, King's Quay Shore SSSI, Sowley Pond SSSI, Upper Hamble Estuary and Woods SSSI, Whitecliff Bay and Bembridge Ledges SSSI, Eling and Bury Marshes SSSI, Lincegrove and Hackett's Marshes SSSI, Brading Marshes to St Helen's Ledges SSSI, Lower Test Valley SSSI, Lymington River ReedBeds SSSI, Dibden Bay SSSI, Hythe to Calshot Marshes SSSI, River Test SSSI, Lee-on-the Solent to Itchen Estuary SSSI, Titchfield Haven SSSI, Newtown Harbour SSSI, Lymington River SSSI, Medina Estuary SSSI, Thorness Bay SSSI, Ryde Sands and Wootton Creek SSSI, North Solent SSSI.</p> <p>Solent and Isle of Wight Lagoons SAC, South Wight SAC, Solent Maritime SAC and Solent and Southampton Water SPA.</p>		
<b>Broad Habitat Classes</b>	<p>Tidal flats (47.9%)            Salt marshes (18.5%)            Saline / brackish marshes: permanent (14.9%)            Sand / shingle shores (including dune systems) (12.1%)            Freshwater marshes / pools: permanent (3.7%)            Rocky shores (1.5%)            Coastal brackish / saline lagoons (0.7%)            Freshwater, tree-dominated wetlands (0.7%)</p>		
<b>Ecological Description</b>	<p>The estuaries and harbours of the Solent are particularly sheltered and form the largest number and tightest cluster of small estuaries anywhere in Great Britain. The Solent and Isle of Wight system is notable for its large range and extent of different habitats. The intertidal area is predominantly sedimentary in nature with extensive intertidal mud and sandflats within the sheltered harbours and areas of gravel and pebble sediments on more exposed beaches. These conditions combine to favour an abundant benthic fauna and green algae which support high densities of migrant and over-wintering wildfowl and waders. Eelgrass <i>Zostera</i> beds occur discontinuously along the north shore of the Isle of Wight and in a few places along the northern shore of The Solent.</p> <p>The Solent system supports a wide range of saltmarsh communities. Upper saltmarshes are dominated by sea purslane <i>Atriplex portulacoides</i>, sea plantain <i>Plantago maritima</i>, sea meadow grass <i>Puccinellia maritima</i> and sea lavender <i>Limonium vulgare</i>; locally thrift <i>Armeria maritima</i> and the nationally scarce golden samphire <i>Inula crithmoides</i> are abundant. Lower saltmarsh vegetation tends to be</p>		

	<p>dominated by sea purslane, cord grass <i>Spartina spp.</i>, glasswort <i>Salicornia spp.</i> and sea-blite <i>Suaeda maritima</i>. Cord-grasses dominate much of the saltmarsh in Southampton Water and in parts of the Solent and it was the original location of the introduction of <i>Spartina alterniflora</i> and subsequent hybridisation with the native species.</p> <p>There are several shingle spits including Hurst spit, Needs Ore Point, Calshot spit and Newtown Harbour spits which support a characteristic shingle flora.</p> <p>A range of grassland types lie inshore of the intertidal zone including unimproved species-rich neutral and calcareous grasslands, brackish grazing marsh systems and reed dominated freshwater marshes.</p> <p>The brackish water lagoons associated with grazing marsh systems behind the seawalls, e.g. Keyhaven-Lymington, Gilkicker lagoon, and at Brading Marshes contain internationally important communities of rare and endangered invertebrates and plants.</p>	
<p><b>Qualifying Features</b></p>	<p>The site is one of the few major sheltered channels between a substantial island and mainland in European waters, exhibiting an unusual strong double tidal flow and has long periods of slack water at high and low tide. It includes many wetland habitats characteristic of the biogeographic region: saline lagoons, saltmarshes, estuaries, intertidal flats, shallow coastal waters, grazing marshes, reedbeds, coastal woodland and rocky boulder reefs.</p>	<p>Ramsar criterion 1</p>
	<p>The site supports an important assemblage of rare plants and invertebrates. At least 33 British Red Data Book invertebrates and at least eight British Red Data Book plants are represented on site.</p>	<p>Ramsar criterion 2</p>
	<p>Assemblages of international importance:          Species with peak counts in winter: 51343 waterfowl (5 year peak mean 1998/99-2002/2003)</p>	<p>Ramsar criterion 5</p>

	<p>Species/populations occurring at levels of international importance:                  Ringed plover, <i>Charadrius hiaticula</i>, Europe/Northwest Africa. 397 individuals, representing an average of 1.2% of the GB population (5 year peak mean 1998/9-2002/3).</p>	<p>Ramsar criterion 6</p>
	<p>Dark-bellied brent goose, <i>Branta bernicla bernicla</i>, NW Europe. 5514 individuals, representing an average of 1.3% of the population (5 year peak mean 1998/9-2002/3).</p>	
<p><b>Conservation Objectives</b></p>	<p>The Ramsar Convention criteria for the Solent and Southampton Water site overlap substantially with the features of the equivalent SPA. No additional conservation objectives are defined to assess these features, but those relating to the SPA can be used.</p>	
<p><b>Condition Status and Trends</b></p>	<p>See above - Solent and Southampton Water SPA.</p>	

**Key Environmental  
 Conditions  
 Supporting Site  
 Integrity**

- ▶ Prevention of coastal erosion. However, coastal habitats are sensitive to flood and coastal defence works, often creating coastal squeeze. Measures in place or being developed include; Coastal Defence Strategies, regulation of private coastal defences, shoreline management plans, coastal habitat management plan (CHaMPs) are in place.
- ▶ No dredging or land-claim of coastal habitats; both resulting from developments including ports, marinas, jetties etc. Marine habitats are particularly sensitive to accidental pollution from shipping, oil/chemical spills, heavy industrial activities, former waste disposal sites and waste-water discharge.
- ▶ Protection from recreational and commercial interests, in what is a busy and developed area.
- ▶ These issues are dealt with through site management statements and joint projects with outside organisations e.g. intertidal sediment recharge, monitoring of saltmarsh erosion or through the relevant planning/ review provisions of the Habitat Regulations. Other more strategic issues are being addressed locally.

**Sources:**

Joint Nature Conservation Committee, Protected Sites Information, 2012  
 Natural England, European Site Conservation Objectives, 2012  
 Habitats Directive, Annex I, 1992  
 Natural England, Nature on the Map, 2012  
 DEFRA, Magic, 2012

**Site Characteristics for New Forest Ramsar**

<b>Location / NGR / Area</b>	Hampshire; Wiltshire	50 49 32 N, 01 39 22 W	28002.81 ha
<b>Coincident Sites</b>	River Avon System SSSI, The New Forest SSSI, Norley Copse and Meadow SSSI, Roydon Woods SSSI, Lympington River SSSI and North Solent SSSI. The New Forest SAC, New Forest SPA		

<p><b>Broad Habitat Classes</b></p>	<p>Other (92.5%)          Peatlands (including peat bogs swamps, fens) (5.3%)          Freshwater, tree-dominated wetlands (0.8%)          Shrub-dominated wetlands (0.6%)          Rivers / streams / creeks: permanent (0.4%)          Forested peatland (0.4%)</p>	
<p><b>Ecological Description</b></p>	<p>The New Forest is an area of semi-natural vegetation including valley mires, fens and wet heath within catchments whose uncultivated and undeveloped state buffer the mires against adverse ecological change. The habitats present are of high ecological quality and diversity with undisturbed transition zones. The suite of mires is regarded as the <i>locus classicus</i> of this type of mire in Britain. Other wetland habitats include numerous ponds of varying size and water chemistry including several ephemeral ponds and a network of small streams mainly acidic in character which have no lowland equivalent in the UK. The plant communities in the numerous valleys and seepage step mires show considerable variation, being affected especially by the nutrient content of groundwater. In the most nutrient-poor zones, <i>Sphagnum</i> bog-mosses, cross-leaved heath, bog asphodel, common cottongrass and similar species predominate. In more enriched conditions the communities are more fen-like.</p>	
<p><b>Qualifying Features</b></p>	<p>Valley mires and wet heaths are found throughout the site and are of outstanding scientific interest. The mires and heaths are within catchments whose uncultivated and undeveloped state buffer the mires against adverse ecological change. This is the largest concentration of intact valley mires of their type in Britain.</p>	<p>Ramsar criterion 1</p>
	<p>The site supports a diverse assemblage of wetland plants and animals including several nationally rare species. Seven species of nationally rare plant are found on the site, as are at least 65 British Red Data Book species of invertebrate.</p>	<p>Ramsar criterion 2</p>
	<p>The mire habitats are of high ecological quality and diversity and have undisturbed transition zones. The invertebrate fauna of the site is important due to the concentration of rare and scarce wetland species. The whole site complex, with its examples of semi-natural habitats is essential to the genetic and ecological diversity of southern England.</p>	<p>Ramsar criterion 3</p>

<b>Conservation Objectives</b>	<p>The Ramsar criteria for the New Forest overlap with the features of its equivalent SAC. No additional conservation objectives are defined to assess these features, but those relating to the SAC can be used.</p>
<b>Condition Status and Trends</b>	<p>River Avon System SSSI: 51 units consisting of; 3.48% favourable, 36.59% unfavourable recovering, 57.13% unfavourable no change and 2.80% unfavourable declining.</p> <p>New Forest SSSI: 582 units; 45.53% of the area is favourable, 53.22% unfavourable recovering, 0.43% unfavourable no change, 0.81% unfavourable declining and 0.01% destroyed/part destroyed.</p> <p>Norley Copse and Meadow SSSI: 2 units consisting of 58.63% Favourable and 41.37% unfavourable recovering.</p> <p>Roydon Woods SSSI: 8 units consisting of 100% Favourable.</p> <p>Lymington River SSSI consists of one unfavourable recovering unit*. The assessment concerns have now been addressed and remedied by the Lymington reed bed water level management plan (See commentary for Lymington River ReedBeds SSSI).</p> <p>North Solent SSSI: 98 units; 63.21% Favourable, 34.94% unfavourable recovering, 0.93% unfavourable no change and 0.91% unfavourable declining*. At several locations of open coast, active erosion of salt marsh is apparent with significant areas of marsh reverting to mudflat, particularly around the seaward areas of the Beaulieu River estuary. Some units are remedied by the Lymington reed bed water level management plan, which re-established tidal exchange in the Lymington River.</p>
<b>Key Environmental Conditions Supporting Site Integrity</b>	<ul style="list-style-type: none"> <li>▶ Carefully balanced hydrological regime to maintain wet heath, mires and pools</li> <li>▶ Acid soils</li> <li>▶ Minimal air pollution (nitrogen deposition can cause compositional changes over time)</li> <li>▶ Unpolluted water</li> <li>▶ Minimal nutrient inputs</li> <li>▶ Low recreational pressure</li> <li>▶ Maintenance of grazing regime</li> </ul>

Sources:

Joint Nature Conservation Committee, Protected Sites Information, 2012; Natural England, European Site Conservation Objectives, 2012; Habitats Directive, Annex I, 1992; Natural England, Nature on the Map, 2012; \*(Feb 2012); DEFRA, Magic, 2012



## Appendix III: APIS Grid Reference Data

The following tables show data held by [APIS](#) (at 17/10/12) for exceedances of critical loads/levels for atmospheric pollutant types relevant to the HRA, at a range of grid references on the strategic road network connecting to Gosport borough. All locations are both within a European site, and within 200m of a road corridor. Cells highlighted in red are already exceeded; those highlighted in yellow have a background load/level >70% of the critical load/level. The following abbreviations apply:

CL = Critical load or level for target habitat at this location

Dep. / conc. = Current rates of deposition or concentration

Exceed. = The amount by which CL is exceeded

**EU site name:** River Itchen SAC  
**Queried habitat(s):** Broadleaved, Mixed and Yew Woodland  
**Grid ref(s):** 445327,115588 **Map ref(s):** 1  
**Road corridor(s):** A27, M27

445327,115588			
Pollutant:	CL	Dep. / conc.	Exceed.
Acid dep. (keq/ha/yr)	CLmaxS: 4.24 CLminN: 0.28 CLmaxN: 4.53	2.48 (N: 2.16   S: 0.32)	No
N dep. (kgN/ha/yr)	10 - 20	30.24	20.24
NOx (µgm <sup>-3</sup> )	30	30.1	0.1

**EU site name:** Solent Maritime SAC (Hamble)  
**Queried habitat(s):** Coastal Saltmarsh  
**Grid ref(s):** 449288,109754 and 449644,110080 **Map ref(s):** 2, 3  
**Road corridor(s):** A27, M27

449288,109754			449644,110080			
Pollutant:	CL	Dep. / conc.	Exceed.	CL	Dep. / conc.	Exceed.
Acid dep. (keq/ha/yr)	4.00	1.26 (N: 1   S: 0.26)	-2.74	4.00	1.45 (N: 1.16   S: 0.29)	-2.55
N dep. (kgN/ha/yr)	20 - 30	14	-6	20 - 30	16.24	-3.76
NOx (µgm <sup>-3</sup> )	30	27.4	-2.6	30	32.47	2.47

**EU site name:** Solent and Southampton Water SPA/Ramsar (Titchfield)  
**Queried habitat(s):** Fen, Marsh and Swamp  
**Grid ref(s):** 454802,104232 **Map ref(s):** 4  
**Road corridor(s):** B3334 Titchfield Road

454802,104232			
Pollutant:	CL	Dep. / conc.	Exceed.
Acid dep. (keq/ha/yr)	This habitat is not sensitive to acidity	1.05	n/a
N dep. (kgN/ha/yr)	Rich fens: 15 - 30	11.34	Rich fens: -3.66
NOx ( $\mu\text{gm}^{-3}$ )	30	22.26	-7.74

**EU site name:** Portsmouth Harbour SPA/Ramsar (Gosport centre)  
**Queried habitat(s):** Coastal Saltmarsh  
**Grid ref(s):** 461721,099688 **Map ref(s):** 5  
**Road corridor(s):** B3333 South Street

461721,099688			
Pollutant:	CL	Dep. / conc.	Exceed.
Acid dep. (keq/ha/yr)	4.00	1.04	-2.96
N dep. (kgN/ha/yr)	20-30	11.06	-8.94
NOx ( $\mu\text{gm}^{-3}$ )	30	26.21	-3.79

**EU site name:** Portsmouth Harbour SPA/Ramsar (Fareham Town Quay)  
**Queried habitat(s):** Coastal Saltmarsh  
**Grid ref(s):** 457942,105820 **Map ref(s):** 6  
**Road corridor(s):** A32 Gosport Road

457942,105820			
Pollutant:	CL	Dep. / conc.	Exceed.
Acid dep. (keq/ha/yr)	4.00	1.34	-2.66
N dep. (kgN/ha/yr)	20-30	15.54	-4.46
NOx ( $\mu\text{gm}^{-3}$ )	30	28.41	-1.59

**EU site name:** Portsmouth Harbour SPA/Ramsar (Wallington)

**Queried habitat(s):** Coastal Saltmarsh

**Grid ref(s):** 458702,106197 **Map ref(s):** 7

**Road corridor(s):** A27 Eastern Way / A27 Cams Hill

458702,106197			
Pollutant:	CL	Dep. / conc.	Exceed.
Acid dep. (keq/ha/yr)	4.00	1.34	-2.66
N dep. (kgN/ha/yr)	20-30	15.54	-4.46
NOx ( $\mu\text{gm}^{-3}$ )	30	28.41	-1.59

**EU site name:** Portsmouth Harbour SPA/Ramsar (Paulsgrove Lake)

**Queried habitat(s):** Coastal Saltmarsh

**Grid ref(s):** 462845,105624 **Map ref(s):** 8

**Road corridor(s):** A27 Southampton Road

462845,105624			
Pollutant:	CL	Dep. / conc.	Exceed.
Acid dep. (keq/ha/yr)	4.00	1.61	-2.39
N dep. (kgN/ha/yr)	20-30	19.32	-0.68
NOx ( $\mu\text{gm}^{-3}$ )	30	26.12	-3.88

**EU site name:** Portsmouth Harbour SPA/Ramsar (Tipner Lake)

**Queried habitat(s):** Coastal Saltmarsh

**Grid ref(s):** 464782,104441 **Map ref(s):** 9

**Road corridor(s):** M27/M275 interchange

462845,105624			
Pollutant:	CL	Dep. / conc.	Exceed.
Acid dep. (keq/ha/yr)	4.00	1.13	-2.87
N dep. (kgN/ha/yr)	20-30	12.46	-7.54
NOx ( $\mu\text{gm}^{-3}$ )	30	29.48	-0.52

**EU site name:** Chichester & Langstone Harbours SPA/Ramsar, Solent Maritime SAC (Farlington)

**Queried habitat(s):** Coastal Saltmarsh

**Grid ref(s):** 467488,104225 **Map ref(s):** 10

**Road corridor(s):** A2030 Eastern Road / A27

467488,104225			
Pollutant:	CL	Dep. / conc.	Exceed.
Acid dep. (keq/ha/yr)	4.00	1.16	-2.84
N dep. (kgN/ha/yr)	20-30	13.02	-6.98
NO <sub>x</sub> (µgm <sup>-3</sup> )	30	34.75	4.75

**EU site name:** Chichester & Langstone Harbours SPA/Ramsar, Solent Maritime SAC (Broadmarsh)

**Queried habitat(s):** Coastal Saltmarsh

**Grid ref(s):** 469518,105424 **Map ref(s):** 11

**Road corridor(s):** A3(M) / A27

469518,105424			
Pollutant:	CL	Dep. / conc.	Exceed.
Acid dep. (keq/ha/yr)	4.00	1.22	-2.78
N dep. (kgN/ha/yr)	20-30	13.72	-6.28
NO <sub>x</sub> (µgm <sup>-3</sup> )	30	28.2	-1.8

**EU site name:** New Forest SAC/SPA/Ramsar

**Queried habitat(s):** Dwarf Shrub Heath

**Grid ref(s):** 441896,105409 **Map ref(s):** 12

**Road corridor(s):** A326 Hythe By-pass

441896,105409			
Pollutant:	CL	Dep. / conc.	Exceed.
Acid dep. (keq/ha/yr)	CLmaxS: 0.27 CLminN: 0.64 CLmaxN: 0.91	1.21 (N: 0.93   S: 0.28)	Yes
N dep. (kgN/ha/yr)	10-20	13.02	3.02
NO <sub>x</sub> (µgm <sup>-3</sup> )	30	24.04	-5.96

**EU site name:** Butser Hill SAC  
**Queried habitat(s):** Calcareous Grassland  
**Grid ref(s):** 472125,119661 **Map ref(s):** 13  
**Road corridor(s):** A3(T)

<b>472125,119661</b>			
Pollutant:	CL	Dep. / conc.	Exceed.
<b>Acid dep. (keq/ha/yr)</b>	CLmaxS: 3.95 CLminN: 0.85 CLmaxN: 4.81	1.58 (N: 1.25   S: 0.33)	No
<b>N dep. (kgN/ha/yr)</b>	Sub-Atlantic semi-dry calcareous grassland: 15 – 25	17.5	Sub-Atlantic semi-dry calcareous grassland: 2.5
<b>NOx (µgm<sup>-3</sup>)</b>	30	15.84	-14.16

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## **Appendix IV: Allocation Plans**

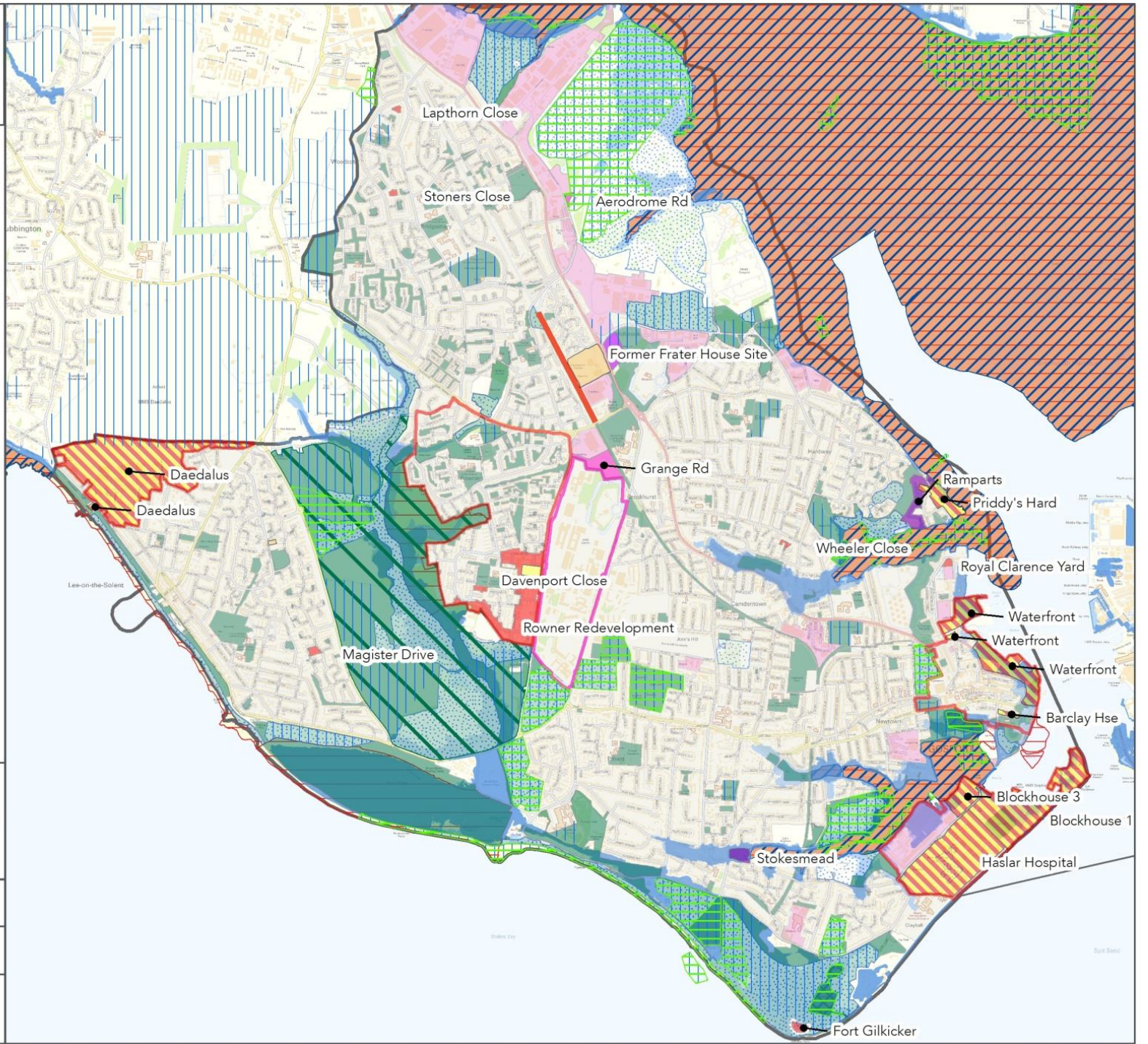
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# Policy Zones, Allocations & Ecological Constraints

-  Important/Uncertain Brent Goose Sites
-  Important/Uncertain Wader Sites
-  Regeneration Areas
-  Residential Allocation
-  Mixed Use Allocation
-  Economic Development Allocation
-  Employment Land Allocation
-  Proposed Neighbourhood Shopping Centre
-  Community Built Leisure Allocation
-  Open Space Allocation
-  Alver Valley Country Park
-  Urban Area
-  SINC
-  Existing Employment
-  Existing Open Space
-  Flood Zone 2\_v201205
-  Flood Zone 3\_v201205
-  Special Area of Conservation
-  Ramsar site
-  Special Protection Area
-  Site of Special Scientific Interest
-  Gosport Borough



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 Kilometers



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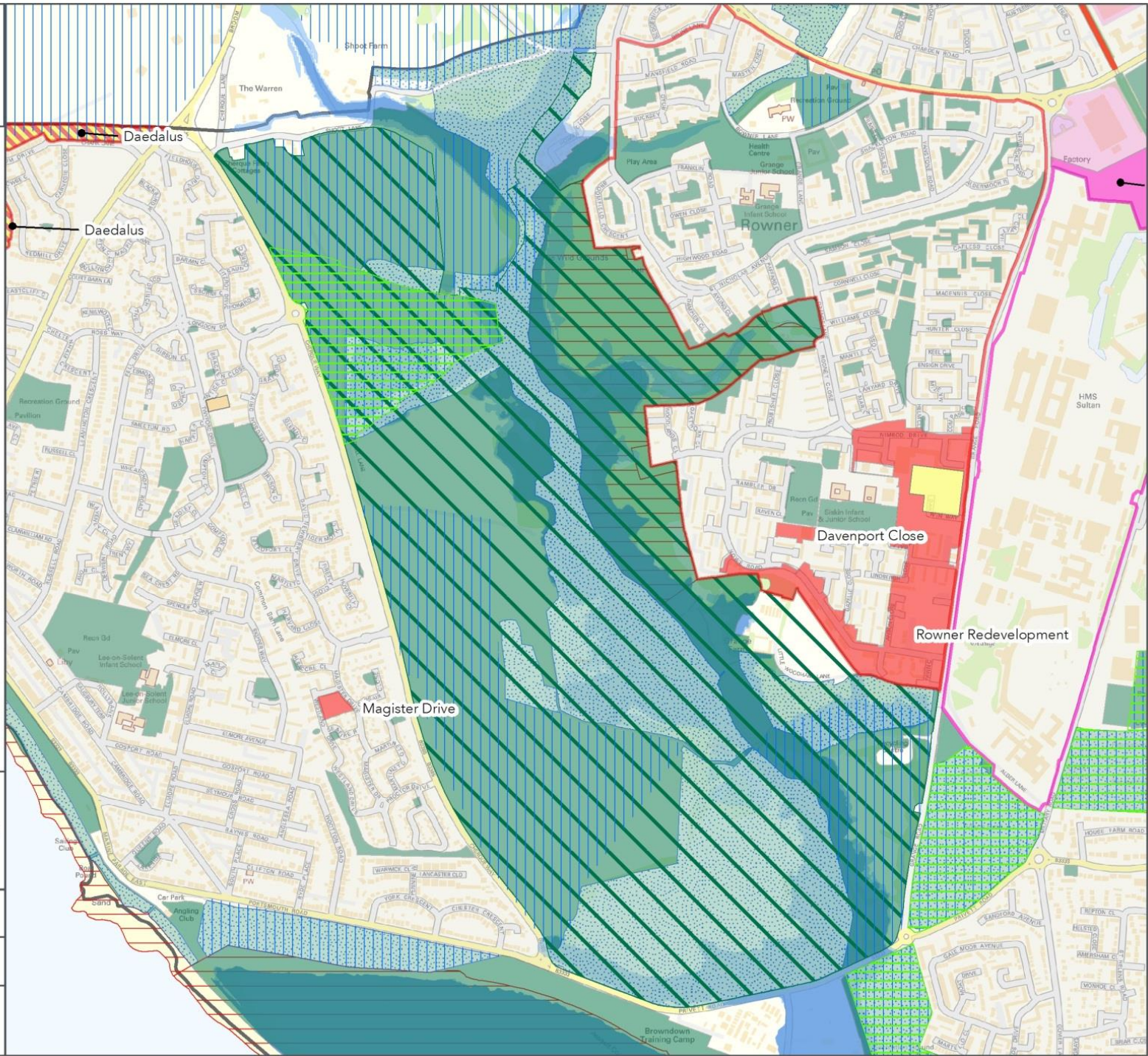


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 Kilometers



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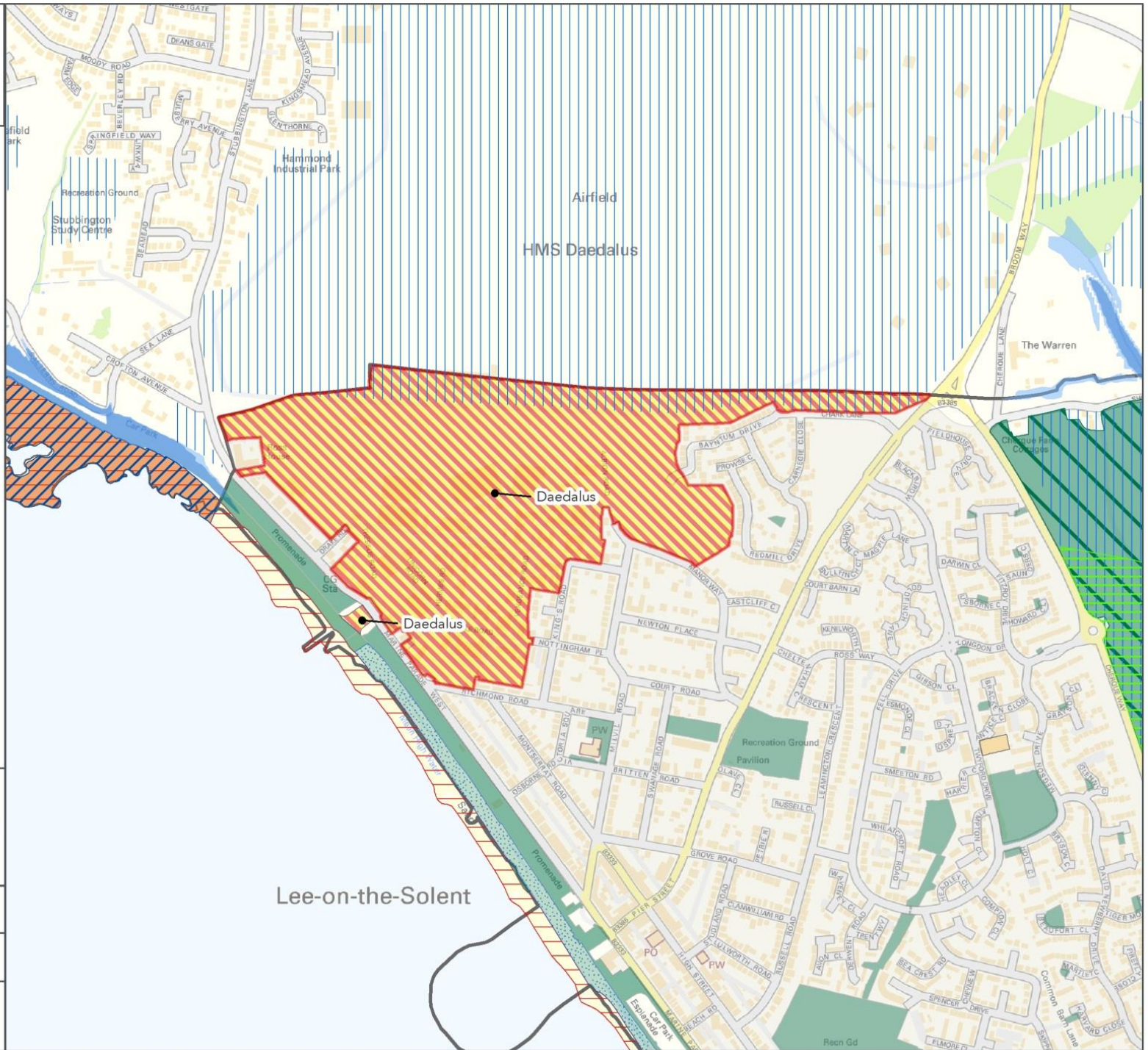
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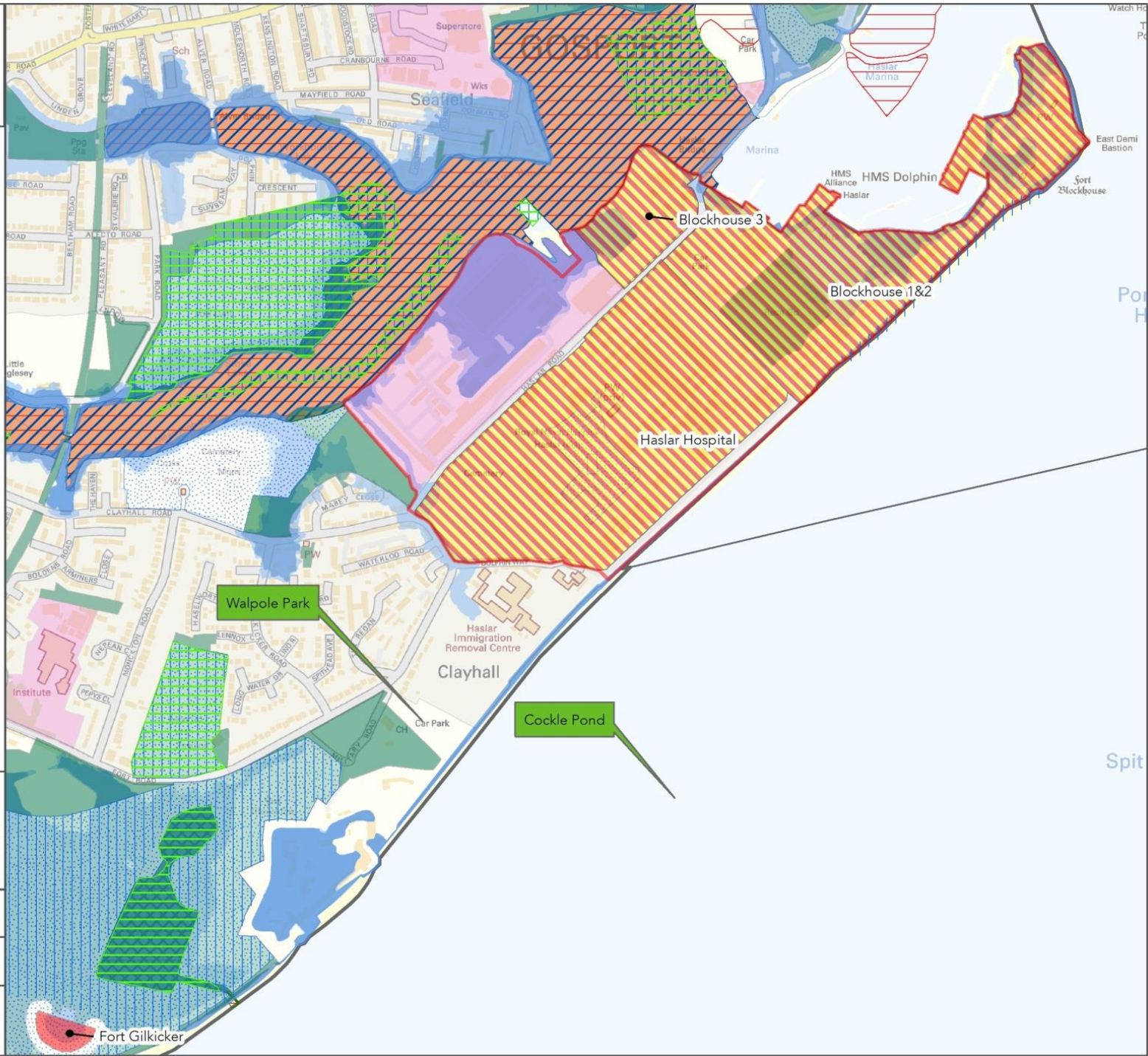
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Lee-on-the-Solent

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 Kilometers



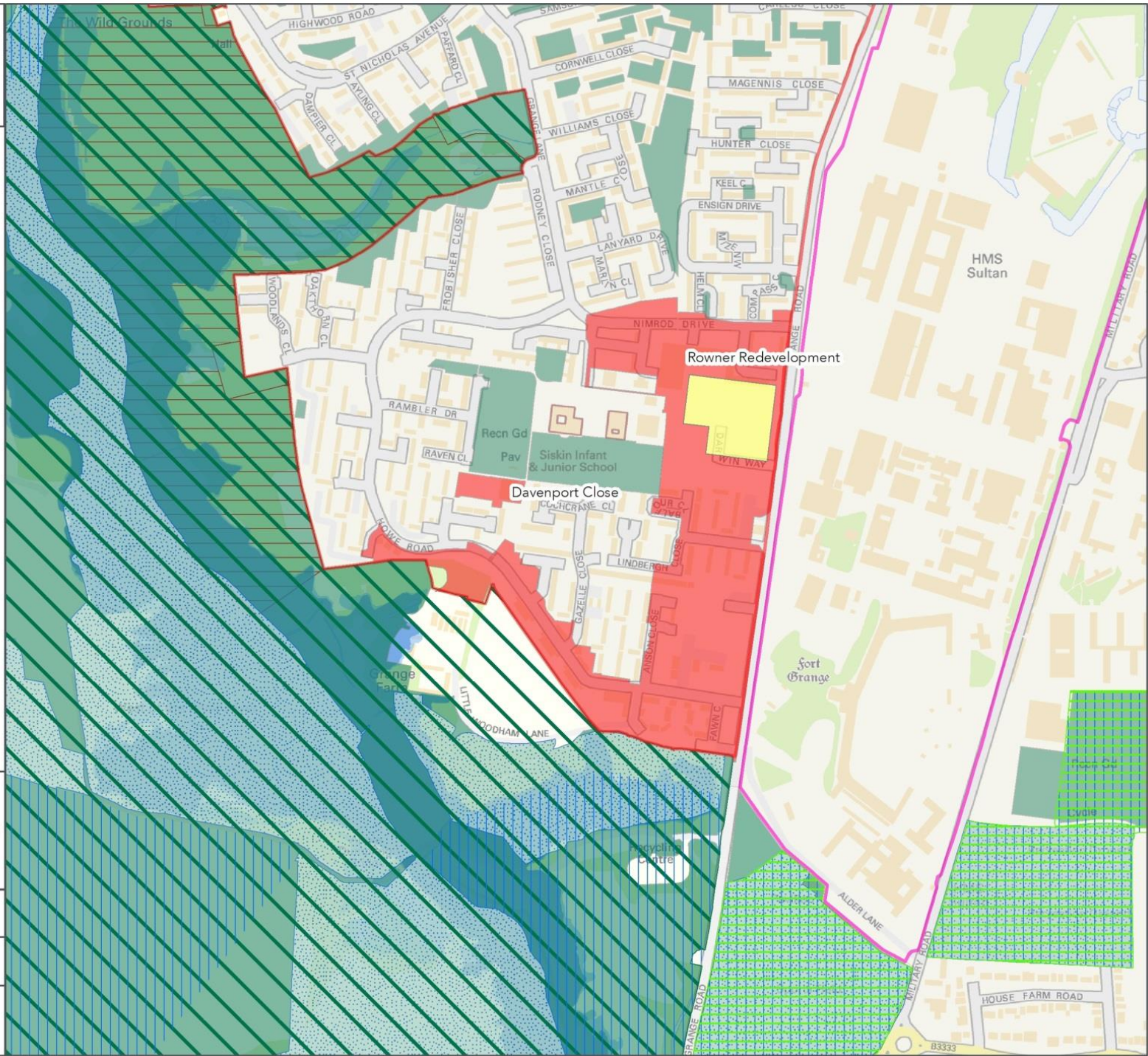
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